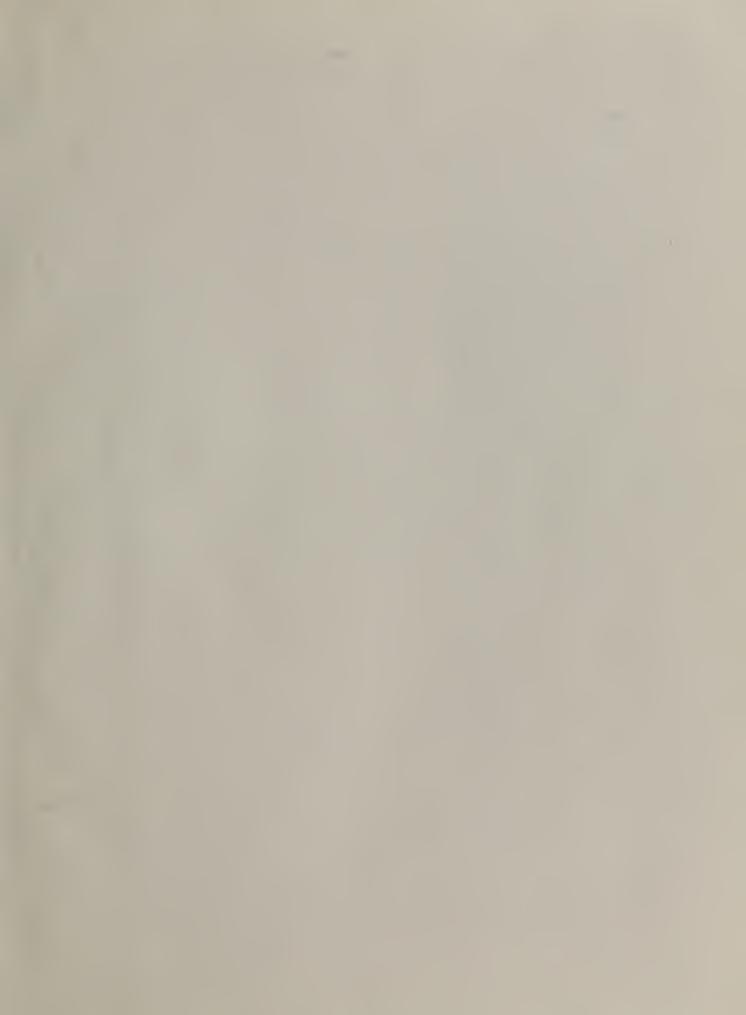
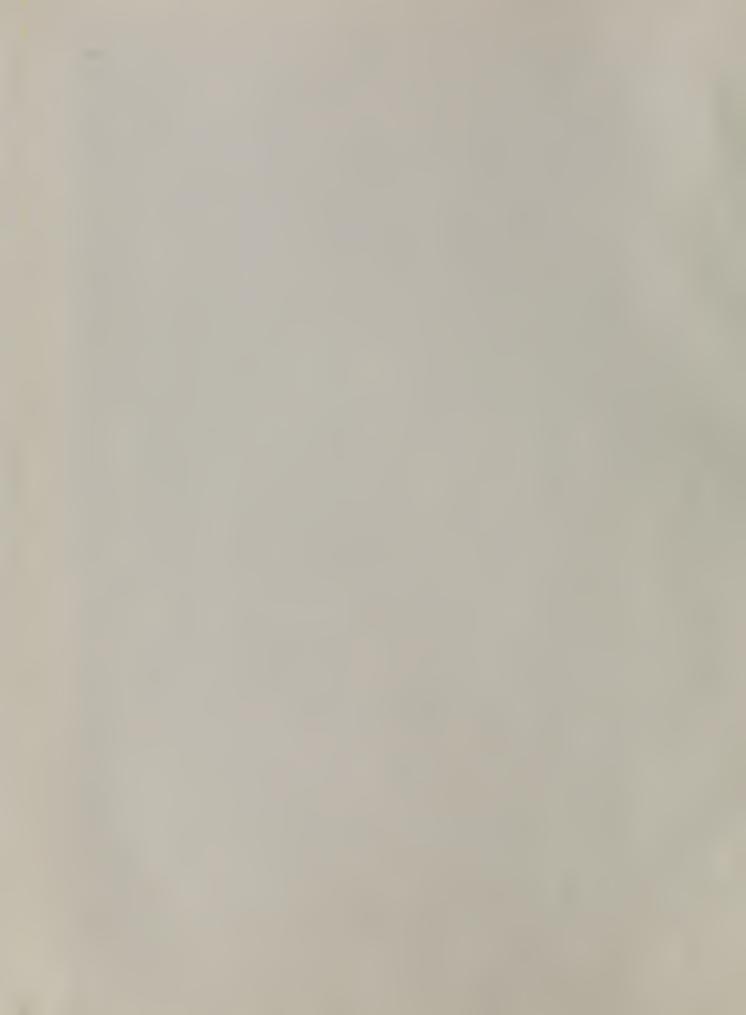
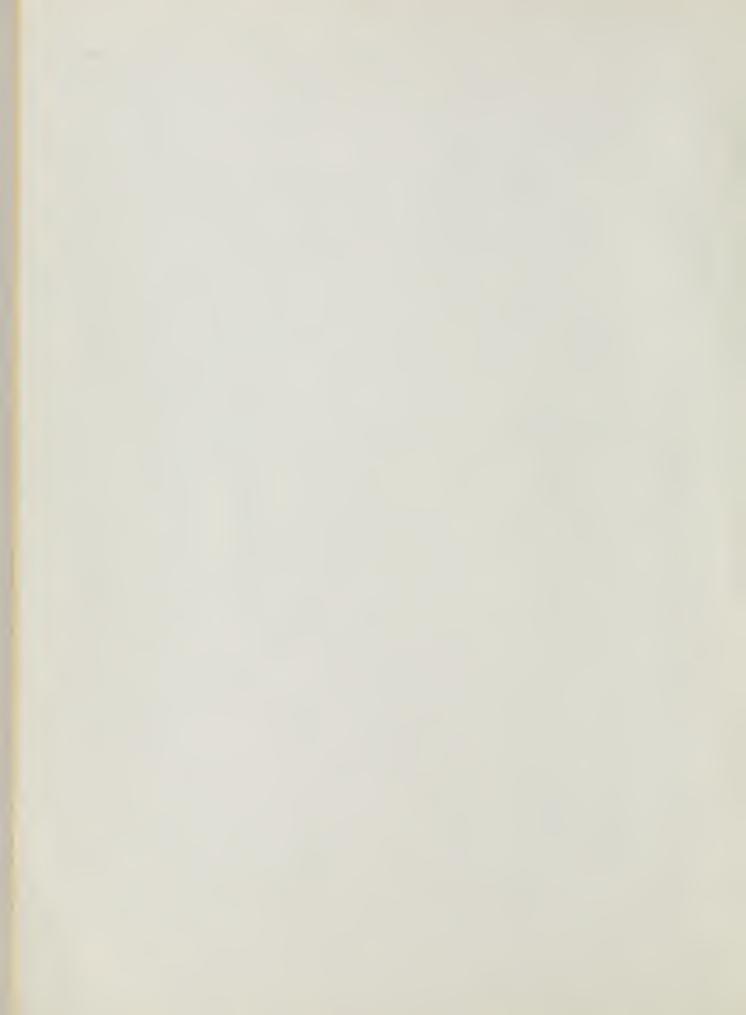


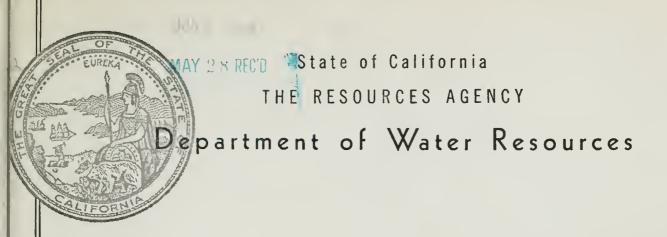
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BULLETIN No. 65-62

QUALITY OF SURFACE WATERS IN CALIFORNIA 1962

APRIL 1965

HUGO FISHER

Administrator
The Resources Agency

EDMUND G. BROWN
Governor
State of California

WILLIAM E. WARNE

Director

Department of Water Resources

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PARTMENT OF WATER RESOURCES

SSE XOEC



February 1, 1965

Honorable Edmund G. Brown, Governor, and Members of the Legislature of the State of California

State Water Quality Control Board

Gentlemen:

Bulletin No. 65-62, "Quality of Surface Waters in California, 1962", reports on a data collecting activity authorized by Section 229 of the Water Code and administered by the Department of Water Resources in cooperation with 19 federal, state, and local agencies. Information is presented for 234 stations located on 123 streams (including 6 major aqueducts and canals) and 4 lakes throughout the State.

The intense storms of early 1962 brought an end to the drought conditions experienced by the northern and central parts of the State during 1959-1961. Some temporary relief was also felt in parts of Southern California. The resulting higher flows reversed the trend toward increased seasonal deterioration in quality which was developing in the State's surface waters. For certain streams, notably the lower reaches of the San Joaquin River and some channels of the Sacramento-San Joaquin Delta, quality conditions during the drought were, from an irrigation standpoint, the poorest ever reported. However, by mid-February 1962, conditions had improved substantially and the quality at all stations in the lower San Joaquin Valley was the best since 1958.

In Southern California, the early rains brought a momentary respite from drought conditions resulting in improved quality conditions in a few streams along the coast. Inland, where the storms did not produce diluting runoff, quality conditions remained unchanged or continued to deteriorate.

The serious salinity problem in the Colorado River near the International Boundary continued unabated, causing concern among authorities in both the United States and Mexico. Fortunately, the quality of California's water supplies from the Colorado River is virtually unaffected by this problem.

Sincerely yours,

Wil Eltern

Director

State of California The Resources Agency DEPARTMENT OF WATER RESOURCES

EDMUND G. BROWN, Governor, State of California HUGO FISHER, Administrator, The Resources Agency WILLIAM E. WARNE, Director, Department of Water Resources ALFRED R. GOLZE, Chief Engineer

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WILLIAM M. CARAH Executive Secretary

ORVILLE ABBOTT Engineer

ACKNOWLEDGMENTS

The extensive coverage of the statewide surface water monitoring program is made possible through cooperation of federal, state, and local agencies. The helpful cooperation of the following agencies is gratefully acknowledged:

Federal Agencies

Department of the Army

Corps of Engineers

Department of the Interior

Bureau of Reclamation

Geological Survey

Department of Health, Education, and Welfare
Public Health Service

State Agencies

California Disaster Office, Radiological Service

Department of Fish and Game

Department of Public Health

Bureau of Sanitary Engineering

Division of Laboratories

State Water Quality Control Board

Other Public Agencies

Imperial Irrigation District

Kern County Land Company

Kings River Water Association

City of Long Beach, Department of Public Health

Other Public Agencies (continued)

City of Los Angeles

Department of Public Health

Department of Water and Power

Los Angeles County Flood Control District

Metropolitan Water District of Southern California, The

City of San Bernardino

City and County of San Francisco

Ventura County Water Resources Division

The Department of Water Resources wishes to especially thank the following federal agencies who granted permission for inclusion in this report of unpublished water quality data collected under various programs:

United States Department of the Interior

Bureau of Reclamation

Geological Survey

In addition, the United States Geological Survey performed a substantial portion of the analyses required by this program under a cooperative agreement with the Department of Water Resources. The bacteriological determinations were made by the California State Department of Public Health and the radiological determinations by the California Disaster Office under provisions of an agreement with the State Water Quality Control Board.

AUTHORIZATION

The activities of the Department's surface water quality program are authorized by Section 229 of the Water Code, which directs that:

"The department ... shall investigate conditions of the quality of all waters within the State, including saline waters, coastal and inland, as related to all sources of pollution of whatever nature and shall report thereon to the Legislature and to the appropriate regional water pollution control board annually, and may recommend any steps which might be taken to improve or protect the quality of such waters."

CHAPTER I. INTRODUCTION

It is axiomatic that a usable as well as abundant source of water is essential to the development of California. Accordingly, it is necessary that the quality of the State's surface water supplies be determined to complement the determination of quantity. In addition, to insure that California's rapidly expanding economy and increasing population are provided with a usable supply of surface water, the early detection and control of quality impairment is necessary.

As the importance of good quality water became more apparent to water users throughout the State, attempts to gather quality information increased. However, except for certain areas such as portions of the Central Valley and Southern California, much of the data is scattered as to location and of a discontinuous nature. Realizing the need for detailed information about the quality of the State's surface waters and for a comprehensive program of surveillance, the State of California began to systematically examine their quality early in 1951. Since that time, this program has been conducted by the Department of Water Resources in cooperation with a number of agencies and organizations.

This bulletin is the seventh in a chronological series of reports on surface water quality conditions in California. Data presented were collected by the Department of Water Resources and its cooperators. In addition to basic data, this bulletin contains evaluations and interpretations of significant variations in quality detected during 1962.

Because the quality of surface waters is subject to frequent and substantial change, the Department of Water Resources, as an aid to interested agencies and individuals, also publishes a monthly report on the subject. It is entitled "Quality of California Surface Waters in (Month, Year)". The monthly reports present current information for many of the locations described in this report plus a brief summary of significant changes in quality that have taken place between issues.

Prior Reports

Data for previous periods are included in the following publications.

- California Department of Public Works, Division of Water Resources, Water Quality Investigations. "Quality of Surface Waters in California, 1951-1954." Report No. 15.
- California Department of Water Resources, Division of Resources Planning. "Quality of Surface Waters in California, 1955-1956." Bulletin No. 65.
- ---. "Quality of Surface Waters in California, 1957."
 Bulletin No. 65-57.
- ---. "Quality of Surface Waters in California, 1958." Bulletin No. 65-58.
- ---. "Quality of Surface Waters in California, 1959, Part I, Northern and Central California." Bulletin No. 65-59.
- ---. "Quality of Surface Waters in California, 1959, Part II, Southern California." Bulletin No. 65-59.
- ---. "Quality of Surface Waters in California, 1960-1961, Volume I, Northern and Central California."
 Bulletin No. 65-61. (In two parts: (1) text, (2) basic data.)
- ---. "Quality of Surface Waters in California, 1960-1961, Volume II, Southern California." Bulletin No. 65-61.

Objectives

The objectives of this program are:

- (1) To determine the quality of the State's surface waters through a network of sampling stations representative of all significant streams and lakes in the State;
- (2) To detect changes in the quality of surface waters and alert control agencies when adverse changes are noted;
 - (3) To determine trends in surface water quality;
- (4) To record and catalogue the data in a readily available form; and
- (5) To disseminate the data and information gathered to interested agencies as soon as practicable.

Scope of the Report

During 1962, water samples were collected and analyzed for 234 stations situated on 123 streams (including 6 major aqueducts and canals) and 4 lakes throughout the State. The location of these stations are shown on Plate 1. Included in the 234 stations are 22 stations maintained by the U. S. Bureau of Reclamation as a part of its program for operation of the Central Valley Project. In addition to the statewide network of sampling stations, the Department of Water Resources maintains in cooperation with the U. S. Bureau of Reclamation a network of stations in the Sacramento-San Joaquin Delta for the purpose of determining the encroachment of salinity from tidewaters into the Delta. Information gathered under this auxiliary program is also described in this report. Locations of stations in this network which, it is emphasized, is independent of the statewide network of stations are shown on Plate 2.

Chapter 2 contains a discussion of the mineral quality of surface waters as found throughout the State in 1962. Discussion is presented in successive order by water pollution control regions which are numbered and named substantially in accordance with the major surface drainage basins with which they are, in essence, coterminous (see Plate 1). The nine water pollution control regions are:

North Coastal Region (No. 1)

San Francisco Bay Region (No. 2)

Central Coastal Region (No. 3)

Los Angeles Region (No. 4)

Central Valley Region (No. 5)

Lahontan Region (No. 6)

Colorado River Basin Region (No. 7)

Santa Ana Region (No. 8)

San Diego Region (No. 9)

For convenience in presentation, the Central Valley Region (No. 5) has been divided into four separate areas as follows: 5a, which encompasses the Sacramento Valley and its tributary watershed; 5b, the San Joaquin Valley; 5c, the Sacramento-San Joaquin Delta; and 5d, the Tulare Lake Basin (the southern one-half of the San Joaquin Valley).

Chapter 3 contains a discussion of quality characteristics of the State's surface waters other than those described by the concentrations of the common mineral salts as found in 1962. Included are presentations pertaining to arsenic, detergents (ABS), the minor constituents (heavy metals), dissolved oxygen, bacteriological quality, and radioactivity.

Appendix A describes the procedures employed under the program and presents a discussion of the criteria utilized in evaluating the quality of water relative to existing or anticipated beneficial uses.

Appendix B contains the data collected under the program. The tabular data are segregated according to location within a particular water pollution control region and also according to the type of data. At the forefront of Appendix B is an index to the tabular data. In addition to listing the pages on which tabular data may be found, the index contains information pertaining to the location, period of record, frequency of sampling, and the collecting agency for each station. This index should also be used in identifying the station locations shown on Plate 1.



CHAPTER II. MINERAL QUALITY

The basic quality characteristics of all waters are those imparted by the kinds and amounts of minerals with which they come in contact as they proceed through the hydrologic cycle. characteristics can be altered substantially and made even more complex by the water-associated activities of man. The concentration and chemical composition of dissolved minerals at any one time and for any particular water are categorized as its mineral quality. The concentration of chemical constituents and combinations of constituents in water vary considerably. Likewise, their effect on the beneficial uses of water is quite variable. With respect to surface waters, this variation in mineral quality is constantly changing, at times only slightly while at other times quite radically depending on the factors which influence the flow of water at a particular location. Accordingly, these characteristics are repeatedly examined through the process of sampling, laboratory analyses, and evaluation to determine whether or not they have changed, what the magnitude of change is, its probable cause, whether or not there is a definite pattern or trend attached to such changes, and what effect this may have on the beneficial use of the particular water in question.

This chapter describes the general mineral character of California's surface waters and discusses the significant changes in mineral quality which occurred during 1962.

North Coastal Region (No. 1)

Thirty-two stations were maintained on 19 streams in this region in 1962. Waters of streams in the northern portion of the

region are predominantly calcium-magnesium bicarbonate, while the remaining streams are generally calcium bicarbonate in character. Boron is present in significant but generally tolerable quantities in certain streams, notably the Shasta, Russian, and Upper Eel Rivers. In general, the mineral quality of streams in this region is excellent for all but the most exacting requirements.

During 1962, there were few significant changes in the mineral quality of streams in the North Coastal Region. In May 1962, a maximum value of record for the concentration of phosphates of 1.6 ppm was reported for station 3, Klamath River near Klamath. The concentration of boron in waters of Outlet Creek near Longvale (station 5b), tributary to the Eel River, near Dos Rios, exceeded 0.5 ppm throughout the summer of 1962. The maximum concentration for the year, 3.1 ppm in September, is the second highest value for boron reported at this station. The maximum value of record, 4.2 ppm, was reported in September 1961.

San Francisco Bay Region (No. 2)

There were five quality stations maintained on as many streams in this region during 1962. In addition to those streams directly tributary to San Francisco Bay, data for two stations, maintained by the U. S. Bureau of Reclamation to observe changes in the quality of the Sacramento River in its final tidal reach, are included only as a matter of information since they fall within the boundaries of the region. Discussion of the variation of quality in the tidal reaches of the river system will be found in the subsequent section of this report under the heading "Central Valley Region (No. 5) - Sacramento-San Joaquin Delta (subregion 5c)".

Waters of principal streams tributary to San Francisco
Bay are bicarbonate in type with calcium generally the predominant
cation. Mineral concentrations (total dissolved solids) range from
100 to 550 ppm for the Napa River and Coyote and Los Gatos Creeks,
and from 150 ppm to as high as 1,100 ppm for Arroyo Del Valle and
900 ppm for Alameda Creek. Boron frequently exceeds 0.5 ppm in the.
Napa River, Arroyo Del Valle, and Alameda Creek. Waters of the
latter streams normally range from moderately hard to very hard.
Occasionally the other streams in the region carry water which is
considered very hard.

After having been dry since early summer 1961, flow resumed early in 1962 at stations 73, Alameda Creek near Niles; 71, Arroyo Del Valle at Veterans Hospital; and 82, Coyote Creek near Madrone. In January 1962, waters of Alameda Creek at Niles had a specific conductance of 1,470 micromhos (approximately 900 ppm, total dissolved solids), the second highest value for total mineral concentration recorded at this station. The boron concentration was 1.0 ppm. In February 1962, the boron concentration for waters of Arroyo Del Valle was reported at 2.9 ppm, somewhat less than the maximum concentration of 3.3 ppm reported a year earlier. Boron concentration in both these streams decreased in succeeding months remaining near the 0.5 ppm level in Alameda Creek but rising to near the 1.0 ppm level in Arroyo Del Valle.

A minimum value of record for specific conductance of 195 micromhos (about 120 ppm, total dissolved solids) was reported for Los Gatos Creek at Los Gatos (station 74) in November 1962.

Central Coastal Region (No. 3)

Fourteen stations on 11 streams were in operation in this region during 1962. The widespread rains early in the year caused flow to resume at several stations, some of which had been reported as dry for many months. In March 1962, streamflow was reported at station 44a, Cuyama River near Garey (dry since May 1960), and station 43a, Salinas River at Paso Robles (dry since June 1960).

Streams of the northern portion of this region (San Lorenzo and Carmel Rivers and Soquel and Uvas Creeks) are calcium bicarbonate in character. Waters of Soquel Creek are very hard. Mineral concentrations in the Pajaro River at Chittenden (station 77 vary substantially with considerably higher concentrations and changing characteristics at low flows. Boron at this station generally exceeds 0.5 ppm, ranging as high as 2.0 ppm, and the waters are frequently very hard. The high mineral concentrations in the Pajaro River at this location can be attributed to its major tributary, the San Benito River. Waters of the San Benito River are magnesium-sodium bicarbonate-sulfate in high concentration (total dissolved solids are usually in excess of 1,200 ppm). Boron is seldom less than 1.5 ppm and the waters are very hard with values for total hardness reported as high as 702 ppm.

Waters of the Salinas River and its tributaries, the major stream system in the Central Coastal Region, are calcium bicarbonate with concentrations of total dissolved solids generally below 500 ppm except at the uppermost station, Salinas River at Paso Robles (43a), where the concentration has been as high as 1,280 ppm.

They range from moderately hard to very hard. The mineral quality at the lowermost station on this stream system, Salinas River near Spreckels (station 43), is at times strongly influenced by the effluent from Alisal Sanitary District Sewage Treatment Plant which is discharged to the river upstream from the sampling point. Consequently concentrations of various minerals at this station are higher than those found in the natural flow.

Streams in the southern portion of the region are calcium-magnesium sulfate (Cuyama River) or calcium-magnesium sulfate-bicarbonate (Santa Ynez River) in character and the waters are very hard. Waters of the Cuyama River near Garey (station 44a) are extremely hard with values for total hardness ranging from 451 to 990 ppm. Total dissolved solids concentrations at this station are the highest for any location in this region and range from 875 to 1,760 ppm.

The most significant changes in surface water quality for the Central Coastal Region during 1962 took place in response to the resumption of flow at several locations. The quality of water flowing in the Salinas River at Paso Robles (station 43a) was considerably better than that found at this location during the period of flow recorded in 1960. Flow lasted three months (March, April, and May) in 1962 and the concentration of total dissolved solids ranged from 424 to 650 ppm. During the period of flow in 1960 (February through June), total dissolved solids at this station ranged from 338 to 886 ppm but was above the 700 ppm level for all months except February. Minimum values of record for concentrations of total hardness (451 ppm) and total dissolved solids (875 ppm)

were reported for waters of the Cuyama River near Garey (station 44a in May 1962. As pointed out earlier in this section, there had been no flow at these two stations since spring 1960.

The trend toward increased mineral concentration in the Pajaro River at Chittenden (station 77) which developed during the dry years of 1960 and 1961 receded for only a short time. during the period of heavy runoff that occurred in March, April, and May 1962. Values for specific conductance varied between 1,830 and 2,170 micromhos throughout the remaining months of the year with the higher values approaching the maximum value of record (2,200 micromhos) reported in November 1954. The previous maximum value for chloride concentration (374 ppm) at this station was exceeded three times in 1962 and a new maximum of record of 382 ppm was established in January 1962. Likewise the concentration of boron exceeded the previous maximum of record (2.0 ppm) three times and a new maximum of 2.4 ppm was established. It is interesting to note that mineral concentrations in waters of the San Benito River, the Pajaro River's principal tributary, while substantial, were generally slightly lower than those of the previous year. However, new maximums of record for chloride concentration (260 ppm) and total hardness (715 ppm) were established for the sampling station (station 77a, San Benito River near Bear Valley Fire Station).

Los Angeles Region (No. 4)

During 1962, data pertaining to the quality of surface waters in this region were collected at 15 stations located on 12 water sources. Included are stations near the termini of the

Colorado River Aqueduct and the Los Angeles Aqueduct. The latter conveys water from the Owens River Basin located in the Lahontan Region (No. 6) to the Los Angeles area. These aqueducts are the principal sources of surface water supplies for the metropolitan area of Southern California.

The quality of surface waters in the Los Angeles Region varies considerably from stream to stream and at any particular location may be strongly influenced by imported water and the multiple use, including the disposal of waste water, to which these waters are put. Quality conditions in the various stream systems are discussed in the following paragraphs beginning at the western end of the region and moving east and south to the eastern boundary.

Ventura River System

Waters of the Ventura River and its principal tributary, Matilija Creek, are calcium sulfate-bicarbonate in character and very hard. Total dissolved solids range from 200 to 1,200 ppm in the Ventura River and from 400 to 1,700 ppm in Matilija Creek. During periods of low flow, the concentration of boron in Matilija Creek exceeds 1.0 ppm. A trend toward increased mineral concentration in Matilija Creek developed after the period of heavy runoff recorded in the spring of 1958, reaching a maximum in December 1961. This trend was reversed in 1962 in response to the dilution afforded by heavy amounts of precipitation that occurred.

Santa Clara River System

In the Santa Clara River Valley of Ventura County, waters of the Santa Clara River and its tributaries are calcium-sodium

Sulfate in character and are extremely hard. Except for Santa Paula Creek, values for boron are usually in excess of 0.5 ppm and frequently higher than 1.0 ppm. Concentrations of sulfate are often extremely high and seldom fall below 250 ppm, the upper limit for sulfate concentration recommended in the U. S. Public Health Service Drinking Water Standards. At the uppermost station on this system, Santa Clara River near Los Angeles-Ventura County Line (station 46) sulfate has been reported as high as 3,368 ppm, and at the lowermos station, Santa Clara River near Santa Paula (station 46a), as high as 971 ppm.

In March 1962, heavy rains produced a runoff sufficient enough to dilute the mineral concentrations at station 46, Santa Clara River near Los Angeles-Ventura County Line, such that minimum values of record for total dissolved solids (484 ppm), total hardness (270 ppm), and sulfate concentration (214 ppm) were produced at this station. Likewise at station 46c, Piru Creek near Piru, minimum values of record for total dissolved solids (545 ppm), total hardness (328 ppm), and sulfate (254 ppm) were reported. While min eral concentrations were lower in 1962 than in 1961 at the other stations in the watershed, no dramatic changes in quality similar to those described above were recorded.

Los Angeles River System

The lower reaches of the Los Angeles River serve as a drainage facility for the conveyance of industrial waste water and storm runoff through the Los Angeles metropolitan area. Consequently the quality of water flowing in the channel is extremely

variable. During periods of high runoff, mineral concentrations are low; however, during most of the year when there is little natural runoff, concentrations are high. At station 47, Los Angeles River at Los Angeles, the water is usually sodium sulfate-chloride in character and very hard. At station 48, Los Angeles River at Long Beach, situated near where the stream enters the Pacific Ocean, the water is usually of such poor quality that it is unusable for any recognized beneficial use. This is because the flow consists almost entirely of highly concentrated, often toxic, waste water. Since the station is in the tidal reach of the river, analyses at times indicate the presence of sea water.

San Gabriel River System

Included in this system is the Rio Hondo, a bifurcation of the San Gabriel River.

Native water in the San Gabriel River system is calcium bicarbonate in character with total dissolved solids between 190 and 350 ppm, and moderately hard to very hard. At times Colorado River water is released to the system above Whittier Narrows and the mixture used to artificially recharge ground water by spreading in the channels of the San Gabriel River and Rio Hondo. Consequently at the downstream stations, the water at these times takes on the chemical characteristics of the imported water, becoming calcium-sodium sulfate water. Total dissolved solids are on the order of 700 ppm and total hardness increases to around 350 ppm.

The Los Angeles and Colorado River Aqueducts

As stated earlier, these conveyance facilities constitute the major source of surface water supply for the metropolitan area

in the region, and (so far as the Colorado Aqueduct is concerned) in the neighboring regions to the south, the Santa Ana (No. 8) and San Diego (No. 9) Regions.

Water from the Los Angeles Aqueduct (which comes from the Owens River Basin) is sodium-calcium bicarbonate in character, soft and of excellent mineral quality. Total dissolved solids vary little, ranging from 159 to 259 ppm.

Water from the Colorado River Aqueduct is calcium-sodium sulfate in character with total dissolved solids ranging from 597 to 830 ppm. It is very hard, total hardness ranging between 300 and 400 ppm.

As is to be expected, there is little fluctuation in mineral concentration in the waters of the two aqueducts throughout the year. During 1962, mineral concentrations in waters of the Los Angeles Aqueduct were generally lower than those reported in 1961. In contrast, mineral concentrations in waters of Colorado River Aqueduct continued to increase. The increased concentration developed after a period of minimum concentration recorded during the last half of 1958 and throughout 1959. However, the concentrations were below the maximum values reported in 1956 and 1957.

Central Valley Region (No. 5)

As stated in the previous chapter, because the Central Valley is so extensive it has been divided into four separate areas for the purposes of this report. They are: 5a, the Sacramento Rive Valley and its tributary watershed; 5b, the San Joaquin River Valle 5c, the Sacramento-San Joaquin Delta; and 5d, the Tulare Lake Basin

Sacramento River Valley Subregion (5a)

Included in this discussion are the waters of the major tributaries of the Sacramento River: the Pit, Feather, Yuba, and American Rivers, and 18 other significant tributaries. During 1962, there were 52 stations in operation in this subregion.

Waters of streams tributary to the Sacramento River above Shasta Dam are primarily calcium bicarbonate in character, soft, and of low mineral concentration. Streams tributary between Keswick and Red Bluff are similar in quality but somewhat harder. Eastside tributaries between Red Bluff and Chico are bicarbonate with no predominant cation, soft, and of low mineral concentration. Waters of the Feather and Bear Rivers are calcium-magnesium bicarbonate while those of the Yuba and American Rivers are calcium bicarbonate. Except for the Bear River, whose waters are at times moderately hard, waters of all four streams are soft and mineral concentrations are quite low.

The quality of water in west side tributaries south of Red Bluff varies substantially from those on the east side of the valley and those above Red Bluff. Mineral concentrations are somewhat higher, the waters range from moderately hard to very hard, and boron is present in significant concentrations. Waters of Red Bank, Elder, Thomes, and Stony Creeks are calcium, or calciummagnesium, bicarbonate in character while those of Clear Lake-Cache Creek are magnesium-calcium bicarbonate in character. In Putah Creek, the most southerly stream, the waters are magnesiumbicarbonate. High concentrations of boron are consistently reported for Cache Creek. At station 80, Cache Creek near Capay, the boron

concentration generally exceeds 0.5 ppm and frequently is greater than 1.0 ppm. At station 79, North Fork Cache Creek near Lower Lake, boron exceeds 2.0 ppm except during periods of excessive runoff in winter. In the past, boron concentration in waters of Putah Creek near Winters (station 81) frequently exceeded 0.5 ppm. However, since Monticello Dam was constructed and the reservoir placed in operation, the level of concentration has been consistently below 0.5 ppm.

During 1962, there were few significant changes in the quality of water in streams tributary to the Sacramento Valley. A maximum value of record for boron concentration (0.8 ppm) was established for waters of Stony Creek near Hamilton City (station 13a) A minimum value of record for boron (0.1 ppm) was established at station 41, Clear Lake at Lakeport, in October. The level of boron in Cache Creek rose to peaks of 5.4 ppm at station 79, North Fork near Lower Lake, and 3.1 ppm at station 80, near Capay. However, these values were below the maximums of record reported for these stations.

The mineral quality of water in the Sacramento River, as would be expected, varies depending on the degree of influence imposed upon it by the more concentrated drainage waters, sewage and industrial wastes, and effluent ground waters which tend to degrade it, and by the less concentrated flows of the tributary streams which tend to "sweeten" it. Below Shasta Dam, it is calcium bicarbonate in character and soft, with total dissolved solids ranging from 67 to 102 ppm. At the Freeport station, well below the city of Sacramento and the American River, the last tributary before the

Delta, it is still bicarbonate in character and soft. However, the major cations, calcium, magnesium, and sodium, are nearly equal in concentration and total dissolved solids range from 68 to 169 ppm. The quality of the Sacramento River is excellent throughout its length. In February 1962, a maximum value of record for specific conductance of 143 micromhos was established at Keswick (station 12). However, this is a matter of record only and has little practical significance.

The quality of drainage water entering the Sacramento River from the valley floor is measured at two locations, each on a major tributary drain. Water from the Colusa Trough is sodium-magnesium bicarbonate, soft to very hard, with values for total dissolved solids reported as high as 900 ppm. Waters of Sacramento Slough are bicarbonate in character, soft to moderately hard, with total dissolved solids ranging up to 440 ppm.

San Joaquin River Valley Subregion (5b)

This subregion encompasses the entire northern one-half of the San Joaquin Valley. Surface drainage is to the San Joaquin River. In 1962, there were 20 stations in operation in the area under this program. Additional data were obtained at five stations operated by the U. S. Bureau of Reclamation. Two new stations, San Joaquin River at Crows Landing Bridge (26b) and San Joaquin River at Patterson Bridge (27a), were added to the network in January. These stations were established to more adequately determine the quality of water in the lower reaches of the San Joaquin River where, at times, it has been critical. Sampling at both stations will

provide data representative of the quality in a relatively long reach of the stream. Historical data collected by the Department of Water Resources and the U. S. Bureau of Reclamation are available for these locations.

Waters of the major east side streams above the valley floor -- the San Joaquin, Fresno, Chowchilla, Merced, Tuolumne, and Stanislaus Rivers -- are generally calcium bicarbonate in character and soft, with low mineral concentrations. Highest mineral concentrations for this group have been reported at station 114, Chowchilla River at Buchanan Dam site (the maximum value of record for total dissolved solids is 481 ppm).

As they move across the valley floor, waters of the east side streams increase in mineral concentration. The degree of increase varies with the particular stream, depending on the factors which tend to bring about the increase. The stream which experiences the greatest increase in mineral concentration is the Tuolum River. At the upstream station, below Don Pedro Dam (31a), the waters are as described above with a total dissolved solids concer tration of 117 ppm being the maximum. At the next station, Hickman Waterford Bridge (30), the waters vary in character from calciumsodium-magnesium bicarbonate at moderate flows to sodium chloride at low flows. Overflow of saline water from abandoned and partial used gas wells, located along the reach of the river between the two stations, contributes substantially to the degradation in the quality in the stream, particularly at low flows. The chloride concentration increases about tenfold when the discharge is low. During the past three years, the range in chloride concentration h varied approximately between 10 and 120 ppm. At the lowermost station, Tuolumne City (31), located a few miles upstream from the confluence with the San Joaquin River, mineral concentrations at the lower flows are approximately double those at the Hickman-Waterford Bridge station. Surface drainage, effluent ground water, sewage, and waste from additional gas wells contribute to the increased concentration and the waters become sodium chloride in character. Total dissolved solids at this station have ranged from 34 ppm to as high as 686 ppm and the chloride concentration from 7 to 298 ppm. The trend toward increased mineral concentration in the Tuolumne River at the two valley floor stations which began in 1959 was reversed in 1962, and mineral concentrations, especially at the Tuolumne City station, were substantially lower than in the previous three years.

Large quantities of water are imported to the San Joaquin Valley from the Sacramento-San Joaquin Delta via the Delta-Mendota Canal. At its terminous near Mendota (station 92), the water in the canal is sodium chloride-bicarbonate in character, and soft to hard with moderate concentrations of dissolved solids. The water, of course, generally varies in quality in response to the changes in quality which take place at the intake in the Sacramento-San Joaquin Delta, near Tracy.

The quality of water in the main stem of the San Joaquin River between Mendota and the Delta is influenced by many factors. Accordingly, there is considerable variation in quality throughout its length. At Mendota (station 25), most of the water is imported water delivered via the Delta Mendota Canal. Consequently the

quality of water at this station is not necessarily representative of the natural quality of water in the San Joaquin River and there is no consistent predominance of a specific cation or anion. The principal cations are sodium and calcium and the dominant anions ar bicarbonate and chloride. Total dissolved solids have ranged from 18 ppm (when the San Joaquin River was in flood) to 753 ppm.

During the irrigation season, all of the flow between Mer. dota and a point opposite the city of Dos Palos is diverted. Consequently water at the next sampling station, Fremont Ford Bridge (25c), some 50 miles downstream from Dos Palos, consists entirely of return water accumulating an unspecified distance above the station and from Salt Slough, the major natural drain for a large area in western Merced County. At this point, waters of the San Joaquin River contain the highest concentrations of salts to be found anywhere throughout its length. They vary in character from sodium chloride to sodium-calcium chloride-sulfate. Total dissolved solid have ranged from 67 ppm (flood stage) to 3,350 ppm. Except during flood flows, the waters are extremely hard (maximum reported value for total hardness is 1,240 ppm) and chlorides and sulfates are present in concentrations frequently in excess of 250 ppm. Generally, the quality of these waters is poor and occasionally it has been degraded to the point of being unusable.

In general, the quality of water in the San Joaquin River improves at each successive downstream station. This is brought about by the dilution afforded by the major tributaries -- the Merced, Tuolumne, and Stanislaus Rivers -- as well as spillage from the irrigation canal systems operated by the larger irrigation

districts which obtain their supply principally from the tributaries. However, there is a tendency for the mineral concentrations to increase in the relatively long reach between the Merced and Tuolumne Rivers. This is due to the fact that drainage water, other waste waters, and effluent ground water infringe heavily on the dilution gained from the Merced River. As a result, a secondary peak in concentration on the San Joaquin River far less severe than that at Fremont Ford Bridge occurs in the vicinity of the Grayson station (26) located a short distance above the confluence with the Tuolumne River. At times this peak in concentration is found further upstream at the Patterson Bridge (27a) or Crows Landing Bridge (26b) stations. Total dissolved solids at the Grayson station have ranged from 54 ppm (flood flow) to 1,140 ppm, and the water varies in character from calcium bicarbonate to sodium chloride.

The lowermost station, San Joaquin River near Vernalis (27), marks the downstream end of the San Joaquin River Valley and the beginning of the Sacramento-San Joaquin Delta. All surface water flow from the valley passes this point and at the same time it is above the influence of tidal action. It is, therefore, one of the key stations in the network operated under this program. The water at station 27 is generally sodium chloride to sodium chloride-bicarbonate in character, moderately hard to hard (soft during high stages of flow) with total dissolved solids ranging from 52 (at high stages) to 1,220 ppm. As at all other stations in the lower reaches (between Fremont Ford Bridge and the Delta) of the San Joaquin River, mineral concentrations at times attain a level considered critical for irrigation, the river's prime use.

The trend toward increasing mineral concentration in water of the San Joaquin River which developed during the dry years 1959, 1960, and 1961, was abruptly reversed by the heavy rains of February and March 1962 and successively improved by increased runoff in the Merced and Stanislaus Rivers during June 1962 which resulted from the first substantial snowmelt since 1958. In December 1962, mineral concentrations at the Fremont Ford station (25c) jumped abruptly upward and exceeded the concentrations reported in the three previous years. Specific conductance was reported at 3,840 micromhos and the chloride concentration was 885 ppm. These values, however, did not exceed the maximum values of record of 5,410 micromhos and 1,330 ppm recorded in late October 1955.

Sacramento-San Joaquin Delta Subregion (5c)

This subregion contains the central portion of the Central Valley and is the focal point for all waters draining toward the Pacific Ocean from the Sacramento and San Joaquin Valleys. Included is the Sacramento-San Joaquin Delta, which extends west to Suisun Bay, and the watersheds of the Cosumnes, Mokelumne, and Calaveras Rivers which are tributary to the Delta from the east. In 1962, there were 23 stations in the area, 17 in the Delta, and 6 on the eastern tributary streams. Additional data for the Delta are collected at 11 stations operated by the U.S. Bureau of Reclamation.

Waters of the eastern tributaries are calcium bicarbonate in character and soft, with low concentrations of dissolved minerals

The quality of water in the Sacramento-San Joaquin Delta is quite variable and is influenced primarily by five important

factors. These are: (1) the tidal motivated incursion of saline water from Suisun Bay into the Delta, (2) flow and quality conditions in streams tributary to the Delta, (3) diversions to, and return flows from, the many irrigated islands in the Delta, (4) export of water from the Delta, and (5) ground water accretions in the Delta.

In the northern portion of the Delta, the waters are representative of the Sacramento River and are bicarbonate in character with the major cations about equal in proportion to one another. They are generally soft with low mineral concentrations. Waters of the middle portion of the Delta vary in chemical composition grading from the bicarbonate type described for the northern portion to the sodium chloride characteristic common to the southern portion. range from soft to hard and have moderate concentrations of dissolved minerals. At the western edge of the middle-Delta, at station 28, San Joaquin River at Antioch, the quality of water undergoes extreme variation because it is affected by sea water from Suisun Bay under certain conditions. When flows are insufficient to repel sea water incursion, the water at this station assumes the sodium chloride character of ocean water and is therefore unsuitable for municipal and industrial use and is restricted as a source of irrigation water. In winter and spring when streamflow increases, the water is usually an excellent sodium bicarbonate water.

Waters of the southern and southwestern portions of the Delta are sodium chloride in character, soft to hard, with maximum values for total hardness at eight stations ranging from 248 to 356 ppm. Total dissolved solids at these same stations vary, at

the maximum, from 609 to 914 ppm. Boron, especially along the western perimeter, is an important characteristic of these waters and maximum concentrations reported exceed 0.5 ppm at all stations Mineral concentrations at one station in particular are significant higher than concentrations at the other seven stations. This is station 107, Indian Slough near Brentwood, where maximum reported values for certain concentrations are: total dissolved solids, 1,237 ppm; total hardness, 570 ppm; and boron, 4.9 ppm. These higher values can be attributed to the influx of highly concentrate ground waters to this channel and to increased mineral concentrations resulting from the fact that there is little opportunity for a complete turnover or flushing out of the water in the channel.

The trend toward deterioration in quality of the waters the southern one-half of the Delta and near Stockton, which accompanied the dry years 1959, 1960, and 1961, continued into 1962 reaching a peak at most locations in mid-January and at other stations in mid-February. Maximum values of record for specific conductance (a measure of total salt concentration) and total hardness were reported for six stations (seven stations for hardness) and near maximum values were reported for the remaining five stations. Following is a tabulation of the values reported together with an estimated value for total dissolved solids. At stations 107 and 108, the maximums occurred in February and, in addition, new maxim values for boron concentration of 0.8 and 1.9 ppm, respectively, were reported at these stations.

MAXIMUM VALUES IN 1962 FOR SPECIFIC CONDUCTANCE AND TOTAL HARDNESS AT STATIONS IN THE SACRAMENTO-SAN JOAQUIN DELTA

Station	: Specific : Conductance : (micromhos)	: Estimated value : for total dis- : solved solids : (ppm)	
Delta Mendota Canal near Tracy (93)	1,440*	811	344*
Stockton Ship Channel at Rindge Island (100)	944*	525	210*
San Joaquin River at Garwood Bridge (101)	1,270*	719	286*
San Joaquin River at Mossdale Bridge (102)	1,270	719	280
Old River near Tracy (103)	1,360	756	326
Grant Line Canal at Tracy Road Bridge (103a)	1,270	698	292
Old River at Clifton Court Ferry (104)	1,330*	757	307*
Italian Slough near Mouth (106)	1,610*	919	348*
Indian Slough near Brentwood (107)	1,350	752	288
Old River at Orwood Bridge (108)	1,390*	781	334*
Rock Slough near Knightsen (109)	1,090	627	302*

^{*} New maximum of record.

Salinity in the Sacramento-San Joaquin Delta

The intrusion of saline water from the San Francisco Bay complex into the channels of the Delta from which water is diverte for irrigation has been a significant problem for many years. To maintain surveillance of the encroachment of saline water into the Delta and to determine its extent, there is, in addition to the net work of stations already described in this report, a network of salinity observation stations located in San Francisco, San Pablo, and Suisun Bays and throughout the Delta.

Data have been collected from this network of stations continuously since 1924 except during the period 1941-1943 when miscellaneous series of samples were collected. Beginning in 1944 the network has been maintained under a cooperative agreement with the U. S. Bureau of Reclamation. Samples are collected, when possible, at four-day intervals, one and one-half hours after high-high tide and analyzed for the concentration of the chloride ion. (Chloride is selected because it is the major constituent of sea water and because its analytical determination is quite simple.) Results are issued monthly to all interested agencies and individuals in the Delta area to keep them advised of prevailing condition. They also serve as an aid to the U. S. Bureau of Reclamation in determining releases from its Central Valley Project reservoirs.

The data presented in this bulletin were collected at 26 stations for the water year October 1, 1961 -- September 30, 1962. Data for prior years are published in Department of Water Resource Bulletin No. 23 series entitled "Surface Water Flow for (year)".

The records for the 1962 water year are listed in tabular form in Appendix B. Also included is a description of the location of the various stations and a tabulation of the maximum observed salinity at them during 12 selected years. The location of the sampling stations and a delineation of the maximum seasonal encroachment of salinity in the Delta of water having 1,000 parts of chloride per million parts of water for these same 12 years are shown on Plate 2. The line for 1938 depicts encroachment during a year when runoff was far above normal prior to operation of the Central Valley Project. Those for 1952, 1956, and 1958 show the limits of encroachment in years when runoff was far above normal since operation of the Central Valley Project began. The line for 1944 typifies the years just preceding the Project. Lines for 1931 and 1939 demonstrate the limits of encroachment in two years when runoff was well below normal prior to the Project. The year 1955 was a water year of subnormal runoff occurring since the Project was placed in operation. The years 1959, 1960, and 1961 are the three most recent (also "dry") years; and 1962 is, of course, the current year. As will be noted, the limit of encroachment in 1962 was considerably west or downstream of the limits for the three previous years.

Tulare Lake Basin Subregion (5d)

In the Tulare Lake Basin, the principal streams included in the network are (from north to south) the Kings, Kaweah, Tule, and Kern Rivers. All are tributary to the San Joaquin Valley from the east side. West side tributaries, and those stemming from the

Tehachapi Mountains at the south end of the valley, contain water only when precipitation is very heavy and consequently are not included in the program. During 1962, there were nine stations in operation.

Waters of the four streams mentioned are generally calcius bicarbonate in character with low concentrations of total dissolved solids. The Kings and Kaweah Rivers produce water which is soft, while that produced by the Tule and Kern Rivers ranges from soft to moderately hard. Total dissolved solids in the Tule and Kern River are also somewhat higher than that of the Kings and Kaweah Rivers with values up to 328 ppm for the Tule River and 257 ppm for the Kern River.

In 1962, the trend toward increased mineral concentration which developed after 1958 in waters of the Kern River was reversed and mineral concentrations were substantially lower than in 1961. However, while peak values at two of the three stations on the Kern River occurred late in 1961, the peak values for station 36a, Kern River below Isabella Dam, were not recorded until January-February 1962. It is possible that this lag in maxima is due to a delay in the release of flow from reservoir storage. The value for specific conductance reported for this station in February (411 micromhos) was a new maximum value of record.

Lahontan Region (No. 6)

The Lahontan Region, which comprises that area situated between the California-Nevada border and the Sierra Nevada Mountain and extends from the Oregon border on the north to the southern

boundary of the Mojave River Basin, contains 12 surface water quality sampling stations located on five streams. These streams are (from north to south) the Susan, Truckee (including Lake Tahoe), Carson, Walker, and Mojave Rivers.

Waters of the Susan, Truckee, Carson, and Walker Rivers are calcium bicarbonate in character, of low mineral concentration, and soft. Total dissolved solids in the Susan River at Susanville (station 17b) range from 40 to 370 ppm. In the other streams, values for total dissolved solids are lower yet. At Lake Tahoe, the range is from 45 to 95 ppm. In April 1962, maximum values for total dissolved solids (286 ppm) and boron concentration (0.5 ppm) were reported for station 116a, Walker River, East near Bridgeport. However, it should be noted that since the magnitude of these concentrations is so low, the fact that they are maximum values of record is of little consequence.

The Mojave River, located at the southern end of the region, is sodium-calcium bicarbonate in character, soft to moderately hard, with concentrations of total dissolved solids ranging up to almost 400 ppm. In March 1962, a new maximum value for total dissolved solids (315 ppm) was reported for the uppermost station, Mojave River near Victorville, (station 67).

Colorado River Basin Region (No. 7)

Fourteen stations on four streams and one lake are maintained in the Colorado River Basin Region to monitor surface water quality. The sources of water and the number of stations on each source are as follows: Colorado River (7), Whitewater River (2),

New River (2), Alamo River (2), and Salton Sea (1). The Colorado River stations, except for station 56d, Colorado River at Colorado River Aqueduct Intake (Lake Havasu), are visited twice each year while the remaining stations in the region are visited bimonthly on the odd-numbered month. Station 56d is sampled monthly. Additional data for other stations on the Colorado River are collected and published by the U. S. Public Health Service.

Since the Colorado River is the primary source of water supply in this region, the quality of water in the Alamo, New, and Whitewater Rivers (except in its upper reaches) and the Salton Sea is strongly influenced by the quality of the water diverted from the Colorado River. Accordingly, quality conditions in the various streams are discussed in parallel with the flow and distribution of water in the region beginning with the uppermost station on the Colorado River in California and ending at the Salton Sea, the natural terminous for much of the water draining the area of use in California.

Colorado River

The Colorado River is a regulated stream; consequently, for the most part, variations in the mineral quality of the waters have been much less erratic in comparison to the variations reported for many other streams. However, in recent years, a marked change in quality has taken place in the lowermost reach of the river and this will be discussed in a later paragraph.

Waters of the Colorado River are sodium-calcium sulfate in character and very hard. Mineral concentrations show a definite

pattern of increase between the uppermost and lowermost of the seven stations in operation. Prior to the marked change in quality at the lower stations, values for total dissolved solids ranged from 588 to 858 ppm at the near Topock (54) station to between 707 and 1,090 ppm at the below Morelos Dam (56b) station. Total hardness in the stream has varied between 250 and 462 ppm and sulfate concentration between 246 and 404 ppm for the seven stations. During 1962, data collected indicate that the trend toward increased mineral concentration, which developed following the higher than usual flows of 1958, continued. However, the 1962 values were lower than those reported during the period 1955-1957 when maximum concentrations were found.

Beginning in 1961, mineral concentrations considerably in excess of those reported earlier have been found at the two lowermost stations on the Colorado River, station 56, at Yuma, Arizona, and station 56b, below Morelos Dam. Up to this time, maximum values for total dissolved solids for these stations had been 1,050 and 1,090 ppm, respectively; however, since then, values have ranged from 2,343 to 3,664 ppm at the Yuma station and from 1,510 to 2,082 ppm at the Morelos Dam station. Similarly, the concentrations of the individual constituents are much larger. The chloride concentrations, in particular, have increased considerably, and at the Yuma station are five times higher than the previously reported maximum value (176 ppm). In addition, the waters have changed in chemical character to where they are now sodium chloride waters. These increases are due to large amounts of highly mineralized irrigation drainage water from the Wellton-Mohawk Project, which enters

the Colorado River upstream from Yuma, Arizona. In 1962, maximum values of record for most of the major mineral constituents were established at these stations. By way of illustration, the maximum values for total dissolved solids and chlorides at the Yuma station were 3,664 and 1,254 ppm, respectively, and at the Morelos Dam station were 2,082 and 673 ppm, respectively.

New and Alamo Rivers

The New and Alamo Rivers serve as drainage channels for the Imperial Valley which receives its water supply from the Colorado River. They originate in Mexico and flow northward into the Salton Sea. Streamflow in them consists almost entirely of waste water, primarily irrigation return water. They bear the sodium sulfate-chloride characteristics of the Colorado River, although the New River is predominantly sodium chloride. The waters are highly mineralized and extremely hard. In January 1962, new maximum values of record were established for total dissolved solids (3,924 ppm) at station 58, New River at Westmorland, and for total dissolved solids (3,230 ppm), chlorides (1,000 ppm), and sulfate (853 ppm) at station 60, Alamo River near Calipatria.

Whitewater River

Native waters in the Whitewater River, which flows southeasterly into the Salton Sea, are calcium bicarbonate with mineral concentrations (212-285 ppm range in total dissolved solids) much lower than those found in the other streams described for this region. However, flow in the lower reach of the river is maintained by irrigation return from the Colorado River supply system as well as other waste waters, and, as it enters the Salton Sea, the waters resemble in mineral quality those of the New and Alamo Rivers.

Salton Sea

Waters of the Salton Sea, the terminous for much of the flows utilized in the region, are sodium chloride and similar in mineral concentration to ocean water. However, the calcium and sulfate concentrations are higher and the chloride concentrations are lower than ocean water. In 1962, total dissolved solids varied from 34,400 to 37,664 ppm.

Santa Ana Region (No. 8)

There are eight stations located in this region and all are on the Santa Ana River and three of its tributaries. However, hydrologic conditions at one of the stations, Lake Elsinore, are such that it is treated separately from the other seven stations. There are a number of substantial waste discharges entering the Santa Ana River and its tributaries and, since the natural flow is small when compared to other streams, they influence considerably the quality of water flowing in the river.

Waters of the Santa Ana River, as measured at station 51b, near Mentone (the uppermost station), are of excellent mineral quality (total dissolved solids vary from 95 to 200 ppm), soft, and calcium bicarbonate in character. As they pass through the highly developed San Bernardino-Riverside area, the contribution of waste water alters substantially their quality and at the remaining three stations they become calcium-sodium bicarbonate and calcium-sodium

bicarbonate-chloride in character. They also become very hard with values for total hardness ranging from 131 to 408 ppm. Total dissolved solids have ranged from 243 to 830 ppm. Occasionally boron at these stations has exceeded 0.5 ppm.

Flow in Warm Creek and in Chino Creek consists mostly of wastes discharged from the San Bernardino and Chino sewage treatment plants respectively. Water at station 50b, Warm Creek at Colton, is calcium bicarbonate-chloride and moderately hard with total dissolved solids ranging from 320 to 770 ppm. Chino Creek water is calcium-sodium bicarbonate in character and usually very hard. Total dissolved solids vary between 150 and 945 ppm.

The eighth station in the Santa Ana Region is Lake Elsinore nore near Elsinore (station 89). The outlet of Lake Elsinore is Temescal Creek, a tributary of the Santa Ana River near Prado Dam. There has seldom been any water in Lake Elsinore since regular sampling began (February 1952) and no observed flow in Temescal Creek throughout the period of record. Accordingly, few samples of the lake's waters have been collected over the years and the mineral quality has varied considerably. However, mineral concentrations have invariably been high, unsuitable for recognized beneficial uses.

In general, the significant changes in the quality of surface water in the Santa Ana Region during 1962 are attributable to the heavy rains which occurred early in the year. These rains produced flow in Warm Creek at San Bernardino (station 50c) for the first time since May 1958. The water was calcium bicarbonate, soft, and had a total dissolved solids content of 74 ppm. The stream ceased to flow a few weeks later.

The heavy rains of February and March 1962 also produced inflow to Lake Elsinore and a sample was collected from the lake in March, the first since May 1959. The total dissolved solids concentration was 21,676 ppm and the water was sodium chloride in character with sulfate a secondary anion. For comparison, the total dissolved solids concentration in May 1959 was 29,893 ppm. By May 1962 the lake was dry again.

San Diego Region (No. 9)

Since streamflow in the San Diego Region is minimal, the nine stations in the region are visited bimonthly. In fact, there was no flow at two of the stations, San Dieguito River near San Pasqual (64) and Tia Juana River at International Boundary (66), during 1962. In addition, five other stations were reported as dry much of the year. One new station, San Diego River at Mission Gorge Road (65c), was added to the network in this region in 1962. This station was established to more effectively monitor the quality of water flowing in the San Diego River.

The quality of surface waters in the San Diego Region varies considerably from stream to stream. Except during periods of runoff from storms, streamflow at most locations consists mainly of waste water discharged from municipal and industrial waste treatment facilities which have considerable bearing on the quality of water in the streams. Since these streams roughly parallel one another from the Santa Margarita River on the north to the Tia Juana River on the south, they will be discussed in that general order.

Waters of the Santa Margarita River are sodium-calcium bicarbonate-chloride in character, very hard, with mineral

concentrations ranging from 520 to 980 ppm, total dissolved solids. In the San Luis Rey River, the waters are calcium-sodium sulfate-bicarbonate, moderately hard to very hard, with somewhat lower mineral concentrations than the Santa Margarita River. Total dissolved solids vary from 320 to 610 ppm.

Streamflow in Escondido Creek near Harmony Grove (station 63) is primarily effluent from the city of Escondido sewage treatment plant. It is sodium chloride-sulfate in character and very hard. Total dissolved solids generally exceed 1,000 ppm and the chloride concentration is seldom less than 200 ppm. The boron concentration usually is in excess of 0.5 ppm and has been as high as 1.2 ppm.

Waters of the San Dieguito River below San Pasqual Valley (station 64) are sodium chloride or sodium bicarbonate in type with calcium as the secondary cation. They are moderately hard to very hard and mineral concentrations range from 130 to 760 ppm, total dissolved solids. There has been no flow at this station since May 1958.

During 1962, there were three stations in operation in the San Diego River Basin, two on the San Diego River itself and one on Forester Creek. Natural flow of substantial magnitude in the basin occurs only after intense storms and the bulk of the flow is composed of effluent from a number of sewage treatment plants which discharge to the river and its tributaries. Waters of the San Diego River are sodium chloride-sulfate and very hard. Total dissolved solids range between 900 and 2,800 ppm; values for chloride concentration usually exceed 300 ppm and those for boron concentration

usually are greater than 0.5 ppm but seldom exceed 1.0 ppm. A sample of natural runoff collected during a major storm in April 1958 contained the following concentrations: total dissolved solids - 241 ppm; chlorides - 54 ppm; and total hardness - 70 ppm. The water was sodium chloride-sulfate in character.

In March 1962, completion of the El Cajon sewer line to a point below station 65, San Diego River at Old Mission Dam, resulted in a decrease in flow at this station and in the cessation of flow at station 65a, Forester Creek at Mission Gorge Road. For this reason a new station, San Diego River at Mission Gorge Road (65c), was established in July 1962 and the Forester Creek station was discontinued at the close of the year.

Waters of Spring Valley Creek near La Pressa (station 65b), a tributary of the Sweetwater River, have generally been of very poor quality. They are sodium chloride in character and extremely hard with values for total hardness usually ranging from 480 to 1,100 ppm. Total dissolved solids have varied from 1,540 to 3,280 ppm and values for chloride concentration have been in excess of 410 ppm consistently.

Flow in the Tia Juana River in California is rare, occurring only after heavy rains. The water at station 66, Tia Juana River at International Boundary, is sodium chloride-bicarbonate and mineral concentrations vary considerably with total dissolved solids ranging from 340 to 1,625 ppm.

During 1962, significant changes were recorded at two stations in the San Diego Region. In February 1962, flow was reported at station 62, San Luis Rey River near Pala, the first since

January 1960. Maximum values of record for total dissolved solids (610 ppm), total hardness (294 ppm), and sulfate concentrations (198 ppm) were established. Previous maximum values for these constituents were 548, 281, and 179 ppm, respectively. The river was reported dry during the remainder of the year. In March 1962, minimum values of record for total dissolved solids (684 ppm), total hardness (244 ppm), chloride concentration (194 ppm), and most of the other common salts were established for station 65b, Spring Valley Creek near La Pressa. Following the recordation of these minimum values, mineral concentrations rose to a level slightly above that reported for 1961.

CHAPTER III. OTHER QUALITY CHARACTERISTICS

In addition to the characteristics imparted by the common mineral salts, there are other characteristics, both mineral and otherwise, which are necessary to adequately define the quality of the State's surface waters. This is particularly important where certain uses of the waters are involved.

In this chapter, these additional quality characteristics as determined in 1962 are described. Included are presentations on the minor constituents (heavy metals), arsenic, detergents (ABS), and dissolved oxygen as well as discussions of bacteriological quality and radioactivity.

Minor Constituents (Heavy Metals)

In 1962, a new procedure was adopted for the examination of surface waters for concentrations of heavy metals. Sixty-seven stations were selected for which spectrographic analyses are performed on samples collected each May and September. Determinations are made for 17 metals, and, where warranted, additional chemical analyses are made. The spectrographic analyses are performed by the U. S. Geological Survey, Quality of Water Branch, at its laboratory in Sacramento, California. Quantitative results are presented in micrograms per liter, essentially parts per billion.

Results for 1962 are presented in Appendix B, Tables B-19 through B-27.

The following tabulation lists the maximum values for the various constituents analyzed and the stations at which they were found. There were no values above the minimum level of detection for Beryllium, Gallium, Germanium, and Zinc.

MAXIMUM CONCENTRATIONS OF VARIOUS METALS IN 1962 (By spectrograph)

Metal	: Concentration : parts per billion	Station (number)
Aluminum (Al) Bismuth (Bi)	255 29	Pit River near Canby (17a) Delta Cross Channel near Walnut Grove (98)
Cadmium (Cd) Cobalt (Co)	13 207	Warm Creek near Colton (50b) Kings River below Peoples Weir (34)
Chromium (Cr) Copper (Cu) Iron (Fe)	12 62 237	Coyote Creek near Madrone (82) Warm Creek near Colton (50b) Nacimiento River near San Miguel (43b)
Manganese (Mn)	215	Los Angeles River at Long Beach (48)
Molybdenum (Mo)	8.3	Rio Hondo at Whittier Narrows (49)
Nickel (Ni) Lead (Pb) Titanium (Ti) Vanadium (V)	61 17 9.8 15	Warm Creek near Colton (50b) Feather River at Nicolaus (20) Pit River near Canby (17a) Pit River near Canby (17a)

As might be expected, the more common metals found in water, aluminum, iron, and nickel, were reported for almost all stations at concentrations above the minimum levels of detection.

For two of the constituents, cadium and manganese, concentrations at certain locations exceeded the limiting values for drinking water prescribed by the U. S. Public Health Service in its Drinking Water Standards. The value for cadium is 0.01 ppm (or 10 ppb). At two stations, Warm Creek near Colton (50b) and Coyote Creek near Madrone (82), the concentrations for cadmium were reported as 13 ppb and 12 ppb, respectively. The latter value was found in May 1962 while the former was reported for September 1962. The recommended limit for manganese is 0.05 ppm or 50 ppb. Concentrations in excess of 50 ppb were found at the following locations:

<u>Station</u>	Manganese Concentration (ppb)
Los Angeles River at Long Beach (48)	215
Escondido Creek at Harmony Grove (63)	135 and 69
Santa Ana River near Norco (51e)	120
Salinas River near Spreckels (43)	103
Alameda Creek near Niles (73)	70

Arsenic

Determinations for the occurrence and concentration of arsenic are made semiannually at many of the stations maintained under this program. During 1962, determinations were made for 91 stations. Measurable concentrations of arsenic were found at 11 locations in May and at 14 locations in September. However, with the exception of two stations, the concentrations were well below the mandatory limit of 0.05 ppm prescribed by the U. S. Public Health Service Drinking Water Standards.

The first is station 48, Los Angeles River at Pacific Coast Highway, where excessive concentrations of arsenic repeatedly have been found and the waters are generally of such quality that they are unsuitable for beneficial use. The arsenic concentrations reported at this station were 1.0 ppm (May) and 3.5 ppm (September).

In September 1962, an arsenic concentration of 0.1 ppm was reported at station 31, Tuolumne River at Tuolumne City, which is located near the confluence with the San Joaquin River. There appears to be no explanation for this and it should be noted that this is the first time a measurable concentration for arsenic has been reported for this location.

ABS (Detergents)

During 1962, determinations of the concentration of ABS (alkyl benzene sulphonate, the active agent in popular synthetic detergents) were made for 68 stations mostly on a semiannual basis. Measurable concentrations were detected at 23 stations. No measurable concentrations in excess of 0.15 ppm were found at stations in the North Coastal (No. 1), San Francisco Bay (No. 2), Central Valley (No. 5), or Lahontan (No. 6) Water Pollution Control Regions. In fact, waters at a total of only eight stations in these areas (about two-thirds of the area of the entire State) were reported to contain ABS. In addition, at only one of these stations, Tuolumne River at Tuolumne City (station 31), was ABS found more than once during the year. A concentration of 0.1 ppm was found at this station in May and September.

Stations where the larger concentrations (0.5 ppm and over) were found are those at which surveillance for ABS is usually more frequent than twice yearly. They are also stations at which flows are known to contain effluent from sewage treatment plants. The highest concentrations of ABS were found in waters of the Salinas River near Spreckels (2.1 ppm in September), Los Angeles River at Long Beach (2.1 ppm in September), Warm Creek near Colton (1.8 to 6.2 ppm throughout the year), Santa Ana River near Norco (0.51 to 1.56 ppm except 0.05 ppm in December), Escondido Creek at Harmony Grove (1.8 to 4.0 ppm), San Diego River at Old Mission Dam (1.1 to 5.0 ppm), and San Diego River at Mission Gorge Road (4.8 to 6.0 ppm).

The highest concentrations of ABS in the State's surface waters were found at station 65b, Spring Valley Creek near La Pressa,

located near San Diego. Values for ABS ranged from 5.7 ppm to 12.2 ppm. The latter value is a maximum of record for this station and for all stations in the State since September 1960 when data on ABS was first collected.

Dissolved Oxygen

Determination of the oxygen content of surface water has for several decades been the classic means for assessing the ability of a stream to assimilate waste. Persistent low levels of oxygen in solution are indicative of pollution or the threat of pollution.

Among the serious consequences resulting from a depleted supply of oxygen in water is its effect on the propagation of fish-life. The presence of oxygen in solution in surface waters in sufficient quantity is necessary for the support of fish and aquatic life; the latter are in turn necessary for the removal of organic waste. In other words, where the dissolved oxygen concentration is low, aquatic life are inhibited in their ability to remove organic material and fish are not only deprived of the oxygen required to survive but also are limited by the availability of aquatic life, their food supply. Included in general criteria proposed for the quality of fresh water that will support a "good mixed fish fauna" is the requirement that dissolved oxygen concentration be at least 5 ppm, although higher concentrations are desirable.

A determination of the dissolved oxygen content is made each time a sample is collected at all stations in the network maintained under this program. During 1962, concentrations below 5.0 ppm were found at 15 stations. However, at the majority (nine) of

these stations, values below 5.0 ppm were found only once. Values below 5.0 ppm were more frequently reported for the following stations: Salinas River near Spreckels (43), Los Angeles River at Long Beach (48), Tuolumne River at Tuolumne City (31), New River at International Boundary (57), Santa Ana River near Norco (51), and San Diego River at Old Mission Dam (65). Except for the Tuolumne River station, where only part of the flow stems from sewage, flow at these stations consists mainly of sewage or industrial waste.

The lowest values (down to 0.0 ppm) were reported at station 48, Los Angeles River at Long Beach, where, as has been mentioned several times in this report, the water is of such poor quality most of the time that it is unusable for recognized beneficial uses.

Other stations where lower values, those below 4.0 ppm, were reported were: station 43, Salinas River near Spreckels (three times); station 31, Tuolumne River at Tuolumne City (2.9 ppm in January); station 65, San Diego River at Old Mission Dam (3.6 ppm in January); and station 65c, San Diego River at Mission Gorge Road (3.6 ppm in September).

Bacteriological Quality

As a part of the program for determining the quality of the State's surface waters and the changes in their quality, bacteriological examination is made of samples collected at the majority of stations. Specifically, determination is made for the presence of coliform bacteria, the group which includes the pathogenic organisms associated with fecal contamination. Results are expressed

as the most probable number (MPN) of coliform bacteria per milliliter (ml) of sample.

The reader is cautioned that the results listed herein are not necessarily indicative of fecal contamination. Further substantiation of contamination requires additional, frequent sampling and more complex laboratory examination. As used in this program, the values serve primarily to establish background conditions of bacteriological quality and as a means of detecting changes of substantial magnitude.

During 1962, samples for bacteriological analyses were collected at 180 stations. As is to be expected, coliform bacteria were reported as present at all locations. At most stations and for much of the time, this indicates only that the possibility of contamination exists. Consistently low values were reported for 25 stations. The minimums ranged from 0.022 to 6 MPN per ml and the maximums from 0.92 to 130 MPN per ml. The lowest values reported were for station 12, Sacramento River at Keswick, and station 70, Los Angeles Aqueduct near San Fernando (0.022 MPN per ml), and at the three stations on Lake Tahoe (0.045 MPN per ml).

Consistently high values were reported throughout the year at both stations on the New River in the Imperial Valley area and at station 48, Los Angeles River near Long Beach, and during the first one-half of the year at stations 51e, Santa Ana River near Norco; 51a, Santa Ana River below Prado Dam; and 65a, Forester Creek at Mission Gorge Road (San Diego County).

Raw sewage is known to flow past station 57, New River at International Boundary, which accounts for the high values reported

for this station (1962 maximum - 700,000 MPN per ml). As for those reported at the downstream station, New River near Westmoreland (58), the flow has been considerably diluted by the time it reaches this point affording some opportunity for self-purification (maximum value - 70,000 MPN per ml). As has been mentioned several times, flow in the Los Angeles River at Long Beach consists almost entirely of sewage and industrial waste. The maximum value reported for this station was also 700,000 MPN per ml.

Flow in Forester Creek consists entirely of sewage and the maximum 1962 value was 240,000 MPN per ml. Much of the flow in the Santa Ana River at the Norco and Prado Dam stations is also composed of sewage. The maximum value for both stations was 70,000 MPN per ml.

Following is a tabulation of the maximum values for 1962 for coliform density at the 149 stations not previously discussed.

Maximum value reported (MPN per ml)	Number of stations reporting maximum value
210	1
230	15
240 290 460	1 1
620	19
650	1
700	7
1300	4
2100	1
2300	1
2400	30
7000	41
7000*	22

^{*} Reported symbolically as "greater than" 7000.

Radioactivity

In addition to the information collected regarding the physical and chemical characteristics of the State's surface waters, data are also obtained under this program to determine the existing or background levels of radioactivity present in them. Such information will serve as a basis for evaluating the effects, if any, of future employment of radioactive substances, for whatever purpose, on California's water resources. Data have been collected at most stations twice yearly since the fall of 1952.

During May and September 1962, samples were collected for analyses of the level of radioactivity present at a total of 196 stations. In all instances, the concentrations were below the recommended criteria employed to judge the effects of radioactivity. Following is a tabulation of the maximum concentrations of alpha and beta activity found in 1962.

(n	Concentration* nicromicrocuries/li	iter)	:	Location (station)
May 1962				
	Dissolved Alpha Solid Alpha	1.7		Santa Ana River, Mentone (51b) Los Angeles River, Long Beach (48)
	Dissolved Beta Solid Beta	23.3 19.3		Alameda Creek, Niles (73) Mad River, Arcata (6a)
September 1962				
	Dissolved Alpha Solid Alpha	1.9		Santa Ana River, Mentone (51b) Spring Valley Creek, La Pressa (65b)
	Dissolved Beta Solid Beta	85.6 29.4		Los Angeles River, Long Beach (48) Los Angeles River, Long Beach (48)

^{*} Statistical confidence limits omitted.

The above tabulation indicates that 3 of the 8 values listed were found at the same location, namely the Los Angeles River at Long Beach. Since waters at this station are composed almost entirely of industrial waste water (except during periods of excessive storm runoff) which is of such poor quality (from a mineral standpoint) as to be unacceptable for beneficial use, these values are of small significance.

Values for concentrations of radioactivity in water at the 196 stations sampled in 1962 are listed in Tables B-28 through B-36 of Appendix B. Additional data on radioactivity in California waters are published by the California State Department of Public Health, Bureau of Radiological Health, in its publication, "Radiological Health News", and by the U. S. Public Health Service.

A P P E N D I X A
PROCEDURES AND CRITERIA



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Field Methods and Procedures

Agencies which participated in the field sampling program during 1962 are listed below, together with the number of stations sampled by each agency.

Agency	Number of stations sampled
State Department of Water Resources	194
United States Corps of Engineers	7
United States Bureau of Reclamation	20
United States Geological Survey	1*
City of Long Beach	1
City of Los Angeles	
Department of Public Health	1
Department of Water and Power	1
The Metropolitan Water District of Southern California	2
City of San Bernardino	2
City and County of San Francisco	5
Total	234

The frequency of sampling at each station varies considerably and is dependent on historic records, the need for the station, and the type of data specifically desired. Accordingly, the sampling frequency will range from semiannually to continuous.

A partial mineral analysis and physical examination is made for samples collected each time a station is visited. Twice

^{*} The U. S. Geological Survey also collected additional samples at seven of the locations listed in the Department of Water Resources total.

each year, at the beginning and closing of the season of heavy use (essentially the irrigation season), the samples collected are subject to complete mineral analysis (in lieu of partial mineral analysis), analysis for detergents and arsenic content, and radioassay. Heavy metal analysis (by spectrograph) are made for 67 selected stations semiannually. Bacteriological analyses are made of samples collected at primary stations. From time to time, other analyses may be substituted. The samples collected for bacterial examination are kept in portable ice boxes until shipment or delivery to the laboratory. Every effort is made to get the samples to the laboratory as quickly as possible.

At the time the samples are collected for laboratory examination, field determinations are made for dissolved oxygen (DO) by the modified Winkler method, water temperature, and pH. Visual inspection is made of the stream or lake and the physical conditions are noted.

Where possible, the sampling stations have been selected so as to be at or near stream gaging stations so that gage heights can also be recorded at the time the water samples are collected. Instantaneous stream discharges at the time of sample collection are then obtained.

Laboratory Methods and Procedures

Methods of mineral and bacterial analysis, in general, are those described in the American Public Health Association publication, "Standard Methods for the Examination of Water and Sewage", llth Edition, 1960. In some cases, the methods described in the following publications also have been employed.

United States Geological Survey. "Methods for Collection and Analysis of Water Samples." Water Supply Paper 1454. 1960.

California State Department of Public Works, Division of of Water Resources. "Methods of Analysis." October 1955.

The following tabulation indicates the constituents analyzed for in the various types of analysis performed in connection with this program.

Mineral and Related Analysis (Wet analysis)

Specific Conductance Ηα Total Dissolved Solids Turbidity ABS (detergent) Hardness Calcium Magnesium Sodium Potassium Carbonate Bicarbonate Sulfate Chloride Nitrate Fluoride Boron Silica Phosphate

Mineral Analysis (By spectrograph)

Aluminum Beryllium Bismuth Cadmium Chormium Cobalt Copper Gallium Germanium Tron Lead Manganese Molybdenum Nickel Titanium Vanadium Zinc

Bacteriological Analysis

Coliform

Arsenic

Radiological Analysis

Dissolved Alpha Solid Alpha Dissolved Beta Solid Beta

In special cases, other constituents are analyzed. Where necessary, certain of the constituents listed under Spectrographic Analysis are determined chemically.

Water Quality Criteria

Criteria presented in the following sections can be utilized in evaluating the quality of water relative to existing or anticipated beneficial uses. It should be noted that these criteria are merely guides to the appraisal of water quality. Except for those constituents which are considered toxic to human beings, these criteria should be considered as suggested limiting values. A water which exceeds one or more of these limiting values need not be eliminated from consideration as a source of supply, but other sources of better quality water should be investigated.

Domestic and Municipal Water Supply

In general, water that is used for drinking or culinary purposes should be clear, colorless, odorless, pleasant to the taste, and free from toxic compounds. It should not contain excessive quantities of dissolved minerals, and must be free from pathogenic organisms.

Chapter 7 of the California Health and Safety Code contains provisions which relate to water supplies used for domestic purposes throughout the State. One of these provisions covers standards for quality of domestic water supplies. In essence, this section (No. 4010.5) refers to the drinking water standards promulgated by the U. S. Public Health Service for water used on interstate carriers as of March 1946.

Recently the U. S. Public Health Service revised (updated) its drinking water standards to take cognizance of man's changing environment and its effect on water supplies. Portions of these

new standards are presented herein. The complete standards, which cover definition of terms, bacteriological quality, physical characteristics, chemical characteristics, radioactivity, and recommended analytical methods, are described in publication No. 956 of the U. S. Department of Health, Education, and Welfare, Public Health Service, "Public Health Service Drinking Water Standards 1962".

Mineral Concentrations. The following tabulation gives the limiting concentrations of chemical constituents for drinking water, as prescribed by the U.S. Public Health Service.

UNITED STATES PUBLIC HEALTH SERVICE DRINKING WATER STANDARDS 1962

Mandatory limit

Constituent	in ppm
Arsenic (As) Barium (Ba) Cadmium (Cd) Hexavalent chromium (Cr ⁺⁶) Cyanide (CN) Lead (Pb) Selenium (Se) Silver (Ag)	0.05 1.0 0.01 0.05 0.2 0.05 0.01
Constituent	Nonmandatory, but recommended limit in ppm
Alkyl benzene sulphonate (detergent) Arsenic (As) Carbon chloroform extract (exotic organic chemicals) Chloride (Cl) Copper (Cu) Cyanide (CN) Fluoride (F) Iron (Fe) Manganese (Mn) Nitrate (NO ₃)	0.5 0.01 0.2 250 1.0 0.01 See following page 0.3 0.05 45
Phenols Sulfate (SO ₄) Total dissolved solids Zinc (Zn)	0.001 250 500 5

Interim standards for the upper limits of certain mineral constituents were adopted by the California State Board of Public Health in December 1959. Based on these standards, temporary permits may be issued for drinking water failing to meet the U.S. Public Health Service Drinking Water Standards, provided the mineral constituents in the following tabulation are not exceeded.

UPPER LIMITS OF TOTAL SOLIDS AND SELECTED MINERALS IN DRINKING WATER AS DELIVERED TO THE CONSUMER (parts per million)

	Permit	Temporary Permit
Total Solids Sulfates (SO ₄) Chlorides (C1) Magnesium (Mg)	500 (1000)* 250 (500)* 250 (500)* 125 (125)*	1500 600 600 150

Fluoride Concentration. The California State Board of Public Health has defined the maximum safe amounts of fluoride ion in drinking water in relation to mean annual temperature.

Mean annual temperature	Mean monthly fluoride ion concentration (ppm)
50° F	1.5
60° F	1.0
70° F and above	0.7

Hardness. Even though hardness of water is not included in the drinking water standards, it is of importance in domestic and industrial uses. Excessive hardness in water used for domestic purposes causes increased consumption of soap and formation of scale in pipes and fixtures. The following tabulation for degrees of hardness is suggested.

^{*} Numbers in parentheses are maximum permissible to be used only where no other more suitable waters are available in sufficient quantity for use in the system.

Range of hardness expressed as CaCO₂, in ppm

0 - 100 101 - 200 Greater than 200 Relative classification

Soft Moderately hard Very hard

Radioactivity. As part of its new drinking water standards, the U. S. Public Health Service recently announced limits on concentrations of radioactivity in drinking waters. These limits are as follows:

Radionuclide

Radium 226 Strontium 90 Gross beta activity Recommended maximum limits micromicrocuries per liter

3 10 1000*

According to the International Commission on Radiological Protection 1/, tentatively concurred in by the National Committee on Radiation Protection 2/, if the Radium-226 and Radium 228 activity in water is substantially less than 10 uuc/l, the maximum permissible concentration of otherwise unidentified radionuclides in water for individuals in the population at large may be considered to be 100 uuc/l.

For the purposes of the environmental survey of surface water made for this report, it has been assumed that the total dissolved and solid alpha activity is derived from Ra^{226} and Ra^{228} .

^{*} In the known absence of strontium-90 and alpha emitters.

^{1/ &}quot;Report on Decisions of the 1959 Meeting of the International Committee on Radiological Protection (ICRP)." Radiology, Vol. 74, No. 1, January 1960, pp. 116-119.

^{2/ &}quot;Somatic Radiation Dose for the General Population, Ad Hoc Committee of the National Committee on Radiation Protection and Measurements." Science, Vol. 131, No. 3399, February 19, 1960, pp. 482-486.

Industrial Water Supply

Water quality criteria for industrial waters are as varied and diversified as industry itself. Food processing, beverage production, pulp and paper manufacturing, and textile industries have exacting requirements. However, many cooling or metallurgical operations permit the use of poor quality water. In general, where a water supply meets drinking water standards, it is satisfactory for industrial use, either directly or following a limited amount of polishing treatment by the industry.

Irrigation Water

Criteria for mineral quality of irrigation water have been developed by the Regional Salinity Laboratories of the U. S. Department of Agriculture in cooperation with the University of California. Because of diverse climatological conditions and the variation in crops and soils in California, only general limits of quality for irrigation waters can be suggested.

QUALITATIVE CLASSIFICATION OF IRRIGATION WATERS

Chemical properties :	Class Excell to go	ent	: Goo	od to	: Inju	lass 3 urious to tisfactor
Total dissolved solids, in ppm	Less tha	n 700	700	- 2000	More	than 2000
Conductance, in micromhos at 25° C	Less tha	n 1000	1000	- 3000	More	than 3000
Chlorides in ppm	Less tha	n 175	175	- 350	More	than 350
Sodium in percent of base constituents	Less tha	n 60	60	- 75	More	than 75
Boron in ppm	Less tha	n 0.5	0.5	- 2.0	More	than 2.0

These criteria have limitations in actual practice. In many instances a water may be wholly unsuitable for irrigation under certain conditions of use, and yet be completely satisfactory under other circumstances. Consideration also should be given to soil permeability, drainage, temperature, humidity, rainfall, and other conditions that can alter the response of a crop to a particular quality of water.

Fish and Aquatic Life

Water of suitable quality and quantity is a fundamental requirement for the existence of an abundant supply of fish and aquatic life. It is important that water quality conditions be such as to maintain an abundant supply of food required by fish and other desirable forms of aquatic life. Streams utilized for the propagation of fish and aquatic life should be free of toxic or harmful concentrations of mineral and organic substances and excessive turbidity. Extensive field and laboratory studies conducted by the U. S. Fish and Wildlife Service show that, among other things, the water in streams supporting a mixed fauna of fresh water fish such as bluegill, bass, crappie, and catfish should have the following properties:

- (a) Dissolved oxygen not less than 5 ppm (at least 6 ppm for salmonids),
- (b) pH range between 6.5 and 8.5,
- (c) Ionizable salts, as indicated by conductivity, between 150 and 500 micromhos at 25° Centigrade, and in general not exceeding 1,000 micromhos,
- (d) Ammonia not exceeding 1.5 ppm.

Mineral salts of high toxicity to fish are those of silver, mercury, copper, zinc, lead, cadmium, nickel, trivalent and hexavalent chromium, and others. Some pairs of toxicants, such as copper and zinc (also copper and cadmium, nickel and zinc), are far more toxic when combined than when they occur individually. Other toxic substances, when combined, neutralize each other through antagonism or chemical reaction (e.g., free cyanide combines with toxic heavy metal cations, such as nickel and copper ions, to form relatively harmless metallocyanide complexes).

Development and use of water resources, including the construction of dams for storage of water, frequently affect water temperatures which in turn affect fish and other aquatic life. Optimum water temperatures for cold water fish, such as trout and salmon, normally lie between 32° and 65° Fahrenheit. The cold water species are generally intolerant of temperatures above 75° Fahrenheit and will seek the lower temperature where possible. Warm-water fish such as minnows, carp, catfish, perch, sunfish, and bass normally live in water having temperatures ranging from near 32° to 86° Fahrenheit. Acclimatization enables certain warm water species to live in waters having temperatures as high as 90° Fahrenheit, although they will migrate, where possible, to waters below 86° Fahrenheit.

Chemical Classification of Waters

Waters are classified, with respect to mineral composition, in terms of the predominant ions. Specifically, the name of an ion is used where it constitutes at least half of its ionic group, expressed in equivalents per million (epm). Where no one ion fulfills

the requirement, a hyphenated combination of the two most abundant constituents is used. Thus a calcium bicarbonate water denotes that calcium constitutes at least half of the cations and bicarbonate represents at least half of the anions. Where calcium, though predominant, is less than half of the total cations with sodium next in abundance, and where bicarbonates are more than half of the total anions, the name is modified to calcium-sodium bicarbonate.



APPENDIX B
DATA FOR 1962



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NORTH COASTAL REGION (NO. 1)

Station Number	Lacation	Period D of Record	Frequency of Sampling	Sampled d by	Analysis on page
le	43N/1N-25	March 1959			93, 375
8e	17N/17W-24	Jan. 1959			94, 377
1d	45N/1W-30	March 1959			95, 375
5d	21N/13W-31	April 1958			96, 376
5	2S/3E-3*	April 1951			97, 376
6	1N/1E-5*	April 1951			98, 357, 376
5e	21 N/13W-6	April 1958			99, 357, 376
7	3S/4E-30*	April 1951			100, 376
9a	10N/14W-21	Jan. 1959			101, 377
lc	.46N/10W-14	Dec. 1958			102, 375
1f	47N/5W-17	Dec. 1961			103, 357, 375
3	13N/2E-17*	April 1951			104, 357, 375
2ъ	46N/12W-3	Dec. 1958			105, 357, 375
2	11N/6E-4*	April 1951			106, 357, 375
6a	6N/1E-15*	Nov. 1958			107, 357, 376
7a	2S/2W-11*	Jan. 1959			108, 376
8b	15N/16W-7	Jan. 1959			109, 377
10c	18N/17W-10	Jan. 1959			110, 377
5b	21N/13W-31	May 1958			111, 376
3ъ	10N/1E-4*	Nov. 1958			112, 375
10	8N/10N-32	April 1951			113, 357, 377
9	9N/9W-22	April 1951			114, 377
8a	14N/12W-36	April 1951			115, 377
10a	17N/11W-6	June 1951			116, 377
2a	11N/6E-2*	Nov. 1958			117, 375
1b	44N/10W-28	Dec. 1958			118, 375
la	46N/7W-24	Dec. 1958			119, 375
3a	16N/1E-10*	April 1951			120, 375
46	5N/7E-19*	April 1958			121, 376
4	8N/5E-31*	April 1951			122, 357, 376
4a	33N/8W-19	April 1951			123, 376
5a	1N/3E-17*	April 1958			124, 376
	1e 8c 1d 5d 5 6 5c 7 9a 1c 1f 3 2b 2 6a 7a 8b 10c 5b 3b 10 9 8a 10a 2a 1b 1a 3a 4b 4 4a	1e	Record 1e	Record Sampling	Record Sampling

a Except as indicated below, location is referenced to Mt. Diablo Base and Meridian
* Humboldt Base and Meridian
b Beginning of record
c All stations sampled monthly
d All stations sampled by Department of Water Resources



JAN FRANCISCO BAY REGION (NO. 2)

Station	Station Number	Location	Period D of Record	Frequency of Sampling	Sompled d	Analysis on page
Alameda Creek ne r., tes	73	43/1.1-15	Dec. 1951		DWR	125, 359, 379
Arroyo Del Valle near Livermore	71	48/2E-4	July 1958		DWR	126, 379
Carquinez Straits at Martinez	28a	2N/34-13	March 1955		USBR	127
Coyote Creek near Madrone	82	95/3E-9	Jan. 1952		DwR	128, 359, 379
Los Gatos Creek near Los Gatos	74	8s/1w-29	Dec. 1951		D∀R	129, 379
Napa River near St. Helena	72	8N/5W-32	Dec. 1951		D√R	130, 359, 379
Sacramento River near Mallard Slough	15e	2N/1E-5	March 1955		USBR	131

a Location is referenced to Mt. Diablo Base and Meridian
b Beginning of record
c All stations sampled monthly
d DWR-Department of Water Resources; USBR-United States Bureau of Reclamation



CENTRAL COASTAL REGION (NO. 3)

Station	Station Number	Location	Period b of Record	Frequency c of Sampling	Sampled d by	Analysis on page
Carmel River at Robles Del Rio	83	16S/1E-82	July 1952			133, 381
Cuyama River near Garey	44a	10N/33W-25 · ·	Oct. 1958			134, 381
Nacimiento River near San Miguel	43ъ	25S/11E-4	Oct. 1958			135, 361, 381
Pajaro River at Chittenden	77	12S/1E-12	Dec. 1951			136, 361, 381
Salinas River near Bradley	43c	23S/10E-15	Oct. 1958			137, 381
Salinas River at Paso Robles	43a	26S/12E-33	April 1951			138, 381
Salinas River near Spreckels	43	15S/3E-8	Apr. 1951- y 1957 - Apr. 1	1958		139, 361, 381
San Antonio River near Pleyto	43d	24S/9E-3	Feb. 1954			140, 381
San Benito River near Bear Valley Fire Station	77a	15S/7E-28	July 1958			141, 381
San Lorenzo River at Big Trees	75	10s/2W-26	Dec. 1951			142, 381
Santa Ynez River at Cachuma Reservoir	1416	6N/30W-19**	April 1958			143, 381
Santa Ynez River near Solvang	45a	6N/31W-22**	April 1951			144, 361
Soquel Creek at Soquel	76	11S/1W-10	Dec. 1951			145, 381
Uvas Creek near Morgan Hill	96	10S/3E-18	July 1952			146, 381

a Except as indicated below, location is referenced to Mt. Diablo Base and Meridian

* Humboldt Base and Meridian

** San Bernardino Base and Meridian

b Beginning of record

c All stations sampled monthly

d All stations sampled by Department of Water Resources



LOS ANGELES REGION (NO. 4)

Colorado River Aqueduct at La Verne	Station	Station Number	Lacatian a	Period b of Record	Frequency ^C af Sampling	Sompled by	Analysis an page
Los Angeles River at Long Beach 48 45/13W-26 April 1951 M LAHD 149, 363, 383 Los Angeles River at Los Angeles 47 15/13W-15 April 1951 M LAHD 150, 151, 383 Matilija Creek above Matilija Dam 45b 5N/23W May 1953 M DWR 152, 383 Mission Creek at Whittier Narrows 40a 25/11W-6 April 1951 M DWR 153, 363, 383 Piru Creek near Piru 46c 4N/18W-20 June 1957 M DWR 154, 383 Rio Hondo at Whittier Narrows 49 25/11W-6 Aoril 1951 M DWR 155, 363, 383 San Gabriel River at Azusa Power House 50d 1N/10W-22 March 1957 M DWR 156, 384 San Gabriel River at Whittier Narrows 50 25/11W-5 April 1951 M DWR 157, 363, 383 Santa Clara River at Los Anseles-Ventura County Line 46 4N/17W-30 Aoril 1951 M DWR 158, 363, 383 Santa Clara River near Santa Paula 46a 3N/21W-12 Aoril 1951 M DWR 159, 363, 383 Santa Paula Creek near Santa Paula 46e 4N/21W-27 June 1957 M DWR 160, 383 Sesoe Creek near Fillmore 46d 4N/20W-12 June 1957 M DWR 161, 383	Colorado River Aqueduct at La Verne	69	1s/0N_6	April 1951	С	MWD	147
15	Los Angelos Aqueduct near San Fernando	70	3N/15W-30	April 1951	M	LADM&P	148
Matilija Creek above Natilija Dam 45b 5N/23W May 1953 M DWR 152, 383 Mission Creek at Whittier Narrows 49a 25/11W-6 April 1951 M DWR 153, 363, 383 Piru Creek near Piru 46c 4N/18W-20 June 1957 M DWR 154, 383 Rio Hondo at Whittier Narrows 49 25/11W-6 April 1951 M DWR 155, 363, 383 San Gabriel River at Azusa Power House 50d 1N/10W-22 March 1957 M DWR 156, 384 San Gabriel River at Whittier Narrows 50 25/11W-5 April 1951 M DWR 157, 363, 383 Santa Clara River at Los Anseles-Ventura County Line 46 4N/17W-30 April 1951 M DWR 158, 363, 383 Santa Clara River near Santa Paula 46a 3N/21W-12 Acril 1951 M DWR 159, 363, 383 Santa Paula Creek near Santa Paula 46e 4N/21W-27 June 1957 M DWR 160, 383 Sesoe Creek near Fillmore 46d 4N/20W-12 <td< td=""><td>Los Angeles River at Long Beach</td><td>48</td><td>4S/13W-26</td><td>April 1951</td><td>М</td><td>LBHD</td><td>149, 363, 383</td></td<>	Los Angeles River at Long Beach	48	4S/13W-26	April 1951	М	LBHD	149, 363, 383
Mission Creek at Whittier Narrows 49a 25/11W-6 April 1951 M DWR 153, 363, 383 Piru Creek near Piru 46c 4N/18W-20 June 1957 M DWR 154, 383 Rio Hondo at Whittier Narrows 49 25/11W-6 April 1951 M DWR 155, 363, 383 San Gabriel River at Azusa Power House 50d 1N/10W-22 March 1957 M DWR 156, 384 San Gabriel River at Whittier Narrows 50 2S/11W-5 April 1951 M DWR 157, 363, 383 Santa Clara River at Los Anseles-Ventura County Line 46 4N/17W-30 April 1951 M DWR 158, 363, 383 Santa Clara River near Santa Paula 46a 3N/21W-12 April 1951 M DWR 159, 363, 383 Santa Paula Creek near Santa Paula 46e 4N/21W-27 June 1957 M DWR 160, 383 Sesoe Creek near Fillmore 46d 4N/20W-12 June 1957 M DWR 161, 383	Los Angeles River at Los Angeles	47	1S/13W-15	April 1951	М	LAHD	150, 151, 383
Piru Creek near Piru 46c 4N/18W-20 June 1957 M DWR 154, 383 Rio Hondo at Whittier Narrows 49 25/11W-6 Abril 1951 M DWR 155, 363, 383 San Gabriel River at Azusa Power House 50d 1N/10W-22 March 1957 M DWR 156, 384 San Gabriel River at Whittier Narrows 50 25/11W-5 April 1951 M DWR 157, 363, 383 Santa Clara River at Los Anseles-Ventura County Line 46 4N/17W-30 April 1951 M DWR 158, 363, 383 Santa Clara River near Santa Paula 46a 3N/21W-12 Abril 1951 M DWR 159, 363, 383 Santa Paula Creek near Santa Paula 46e 4N/21W-27 June 1957 M DWR 160, 383 Sesoe Creek near Fillmore 46d 4N/20W-12 June 1957 M DWR 161, 383	Matilija Creek above Matilija Dam	456	5N/23'ii	May 1953	M	D'wR	152, 383
Rio Hondo at Whittier Narrows 49 25/11W-6 Acril 1951 M DWR 155, 363, 383 San Gabriel River at Azusa Power House 50d 1N/10W-22 March 1957 M DWR 156, 384 San Gabriel River at Whittier Narrows 50 25/11W-5 April 1951 M DWR 157, 363, 383 Santa Clara River at Los Anseles-Ventura County Line 46 4N/17W-30 April 1951 M DWR 158, 363, 383 Santa Clara River near Santa Paula 46a 3N/21W-12 Acril 1951 M DWR 159, 363, 383 Santa Paula Creek near Santa Paula 46e 4N/21W-27 June 1957 M DWR 160, 383 Sesoe Creek near Fillmore 46d 4N/20W-12 June 1957 M DWR 161, 383	Mission Creek at Whittier Narrows	40a	25/11W - 6	April 1951	М	D/R	153, 363, 383
San Gabriel River at Azusa Power House 50d 1N/10W-22 March 1957 M DWR 156, 384 San Gabriel River at Whittier Narrows 50 2S/11W-5 April 1951 M DWR 157, 363, 383 Santa Clara River at Los Anseles-Ventura County Line 46 4N/17W-30 April 1951 M DWR 158, 363, 383 Santa Clara River near Santa Paula 46a 3N/21W-12 April 1951 M DWR 159, 363, 383 Santa Paula Creek near Santa Paula 46e 4N/21W-27 June 1957 M DWR 160, 383 Sesoe Creek near Fillmore 46d 4N/20W-12 June 1957 M DWR 161, 383	Piru Creek near Piru	46c	4N/18W-20	June 1957	M	DWR	154, 383
San Gabriel River at Whittier Narrows 50 2S/11W-5 April 1951 M DWR 157, 363, 383 Santa Clara River at Los Angeles-Ventura County Line 46 4N/17W-30 April 1951 M DWR 158, 363, 383 Santa Clara River near Santa Paula 46a 3N/21W-12 April 1951 M DWR 159, 363, 383 Santa Paula Creek near Santa Paula 46e 4N/21W-27 June 1957 M DWR 160, 383 Sesoe Creek near Fillmore 46d 4N/20W-12 June 1957 M DWR 161, 383	Rio Hondo at Whittier Narrows	49	2S/11W-6	April 1951	М	DWR	155, 363, 383
Santa Clara River at Los Angeles-Ventura County Line 46 4N/17W-30 April 1951 M DWR 158, 363, 383 Santa Clara River near Santa Paula 46a 3N/21W-12 April 1951 M DWR 159, 363, 383 Santa Paula Creek near Santa Paula 46e 4N/21W-27 June 1957 M DWR 160, 383 Sespe Creek near Fillmore 46d 4N/20W-12 June 1957 M DWR 161, 383	San Gabriel River at Azusa Power House	50a	1N/10%-22	March 1957	М	DWR	156, 384
Santa Clara River near Santa Paula 46a 3N/21W-12 Acril 1951 M DWR 159, 363, 383 Santa Paula Creek near Santa Paula 46e 4N/21W-27 June 1957 M DWR 160, 383 Sesoe Creek near Fillmore 46d 4N/20W-12 June 1957 M DWR 161, 383	San Gabriel River at Whittier Narrows	50	2S/11W-5	April 1951	М	DWR	157, 363, 383
Santa Paula Creek near Santa Paula 46e 4N/21W-27 June 1957 M DWR 160, 383 Sesoe Creek near Fillmore 46d 4N/20W-12 June 1957 M DWR 161, 383	Santa Clara River at Los Angeles-Ventura County Line	46	4N/17#-30	April 1951	М	DWR	158, 363, 383
Sesoe Creek near Fillmore 46d 4N/20W-12 June 1957 M DWR 161, 383	Santa Clara River near Santa Paula	46a	3N/21W-12	April 1951	M	DWR	159, 363, 383
	Santa Paula Creek near Santa Paula	46e	4N/21VI-27	June 1957	М	DWR	160, 383
Ventura River near Ventura 61 33N/23W-8 May 1951 M DAR 162, 363, 384	Sesoe Creek near Fillmore	46d	4N/20W-12	June 1957	М	DWR	161, 383
	Ventura River near Ventura	61	3N/23W-8	May 1951	М	D'A'R	162, 363, 384

a Location is referenced to San Bernardino Base and Meridian
b Beginning of record
c M-Monthly, B-Bimonthly, Q-Quarterly, S-Semiannually, C-Composite of 24-hour samples taken each day
d M/D-Metropolitan Water District of Southern California; LADW&P-Los Angeles Department of Water and Power;
LAHD-Los Angeles Health Department; LEHD-Long Beach Health Department; DWR-Department of Water Resources

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CENTRAL VALLEY REGION (NO. 5)

Station	Station Number	Lacation	Period b of Record	Frequency c of Sampling	Sompled d	Analysis an page
American River at Fair Oaks	22d	9N/6E-13	March 1951 to Sep 30, 1962	D	USGS	163
American River at Fair Oaks			Jan. 1938	Q	USBR	164
American River at Nimbus Dam	22a	9N/7E-16	Nov. 1958	М	DWR	165, 365, 387
American River at Sacramento	22	8N/5E-3	April 1951	М	DWR	166, 365, 387
American River, Middle Fork near Auburn	227	12N/9E-6	July 1958	14	DWR	167, 387
American River, South Fork near Lotus	22c	11N/9E-11	July 1958	14	DWR	168, 387
Antelope Creek near Mouth	88e	26N/2N-17	Oct. 1958	14	DWR	169, 391
Antelope Creek near Red Bluff	88e	2711/271-8	Oct. 1958	M	DWR	170, 391
Pattle Creek near Cottonwood	88ъ	29N/2N-6	April 1958	M	DWR	171, 391
Bear River near Mouth	20b	13N/4E-20	Nov. 1958	M	DWR .	172, 387
Bear River near /heatland	78	13N/5E-3	Dec. 1951	M	DWR	173, 366, 390
Big Creek above Pine Flat Dam	33d	12S/25E-4	July 1960	M	USCE	174, 389
Big Chico Creek at Chico	85a	22N/1E-28	Jan. 1959	М .	DWR	175, 390
Big Chicc Creek near Chico	85	22N/2E-9	July 1952	M	DWR	176
Butte Creek near Chico	84	22N/2E-36	July 1952	M	DWR	177
Cache Creek near Capay	80	10N/2.1-8	Dec. 1951	М	DWR	178, 366, 390
Cache Creek near Lower Lake	142	12N/6W-6	April 1951	М	DWR	179, 366, 390
Cache Creek, North Fork near Lower Lake	79	14N/6W-31	Dec. 1951	M	DWR	180, 390
Cache Slough below Lindsey Slough	110a	5N/3E-31	April 1952	ą	USBR	181
Calaveras River at Jenny Lind	16a	3N/10E-27	April 1951	М	DWR	182, 386
Calaveras River near Stockton	165	2N/6E-26	July 1958	M	DWR	183
Chowchilla River at Buchanan Damsite	114	8s/18E-22	Jan. 1958	М	DWR	184, 392
Clear Creek near Igo	12d	31N/6W-27	April 1958	М	DWR	185, 385
Clear Lake at Lakeport	41	141/10%-24	April 1951	M	DWR	186, 366, 390
Colusa Trough near Colusa	87	16N/2W-34	July 1952	М	DVR	187, 390
Contra Costa Canal at 1st Pump Lift	109a	2N/2E-25	Jan. 1955	М	USBR	188
Cosumnes River at McCoanell	94a	 6N/6E-20	July 1958	M	DWR	189, 366, 391
Cosumnes River at Michigan Bar	94	8N/8E-36	July 1952	M	DWR	190, 391
Cottonwood Creek near Cottonwood	126	29N/34-7	April 1951	М	DWR	191, 385
Cottonwood Creek below North Fork Cottonwood Creek	lla	29N/6W-2	Oct. 1958	М	DWR	192, 385
Cottonwood Creek, South Fork above Cottonwood Creek	115	29N/4W-17	Nov. 1958	М	DWR	193, 385
Cow Creek near Millville	88a.	31N/3W-32	April 1958	М	DWR	194, 391
Delta Cross Channel near Walnut Grove	98	5N/4E-35	Sept. 1952	М	DWR	195, 366
Delta-Mendota Canal near Mendota *	92	13S/15E-19	July 1952	м	DWR	196, 366, 391
Delta-Mendota Canal near Tracy	93 93	1S/4E-30 25/3E-1R	July 1952 July 1955	M D	DWR USGS	197, 366, 391 198, 199, 200, 201
Dutch Slough at Farrar Park Bridge	108b	2N/3E-22	May 1955	Feb-Oct	USBR	202
Elder Creek at Cerber	95a	25N/3W-2	Jan. 1959	М	DWR	203, 391
Elder Creek near Paskenta	13e	25N/64-14	Oct. 1958	M	DWR	204, 386

a Location is referenced to Mt. Diablo Base and Meridian
b Beginning of record
c M-Monthly, B-Bimonthly, Q-Quarterly, S-Semiannually, D-Composites of samples collected daily
d USGS-United States Geological Survey, quality of Water Branch; USBR-United States Bureau of Reclamation;
DWR-Department of Water Resources; USCE-United States Army Corps of Engineers

CENTRAL VALLEY REGION (NO. 5) (Continued)

Station	Stotian Number	Location	Period b of Record	Frequency ^C of Sompling	Sompled d	Analysis on Page
False River at Webb Pump	112a	3N/3E-36	May 1955	Feb - Oct	USBR	205
Feather River at Nicolaus	20	12N-3E-12	April 1951 (March 1951- Sept. 30, 1962	M) D	DWR	206, 365, 387 207, 208
Feather River near Oroville	19	19N/4E-2	April 1951	M	DWR	209, 365, 387
Feather River below Shanghai Bend	20a	14N/3E-11	July 1958	М	DWR	210, 387
Fresno River near Daulton	113	10S/19E-3	Jan. 1958	М	DWR	211, 392
Grant Line Canal at Tracy Road Bridge	103a	1S/5E-29	July 1958	M	DWR	212, 392
Indian Creek near Crescent Mills	17d	26N/9E-25	April 1951	M	DWR	213, 386
Indian Slough near Brentwood	107	1N/3E-23	Sept. 1952	М	DWR	214, 392
Italian Slough near Mouth	106	1S/4E-7	Sept. 1952	M	DWR	215, 392
Kaweah River below Terminous Dam	35	17S/28E-26	April 1951	M	(DUR_USCE)	216, 389
Kern River near Bakersfield	36	28S/28E-2	April 1951	M	DWR	217, 366, 390
Kern River below Isabella Dam	36a	26S/33E-30	Sept. 1955	M	USCE	218, 390
Kern River near Kernville	36b	235/32E-14	Sept. 1955	М	USCE	219, 390
Kings River below North Fork	33e	12S/26E-21	Sept. 1955	м	USCE	220, 389
Kings River below People's Weir	34	17S/22E-1	April 1951	М	DWR	221, 366, 389
Kings River below Pine Flat Dam	33b	13S/24E-2	Sept. 1955	м	USCE	222, 389
Lindsey Slough near Rio Vista	110	5N/2E-25	Oct. 1952	M	D\/R	223
Little Potato Slough at Terminous	99	3N/4E-13	Sept. 1952	м	DWR	224, 392
McCloud River above Shasta Lake	18	36N/3W-31	April 1951	M	DWR	225, 386
Merced River below Exchequer Dam	32a	4S/15E-14	April 1951	м	DWR	226, 389
Merced River near Stevinson	32	65/9E-36	April 1951	м	DWR	227, 366, 389
Mill Creek near Mouth	88	25N/2W_9	July 1952	M	DWR	228
Mokelumne River below Cosumnes River	23b	5N/5E-29	June 1952 (except 1956)	1	USBR	229
Mokelumne River below Georgiana Slough	23c	3N/4E-7	May 1952 (except 1956)	I	USBR	230
Mokelumne River near Lancha Plana	23a	4N/10E-4	April 1951	М	DWR .	231, 388
Mokelumne River at Woodbridge	23	4N/6E-34	April 1951	М	DWR	232, 365, 387
Old River at Clifton Court Ferry	104	1S/4E-20	Sept. 1952	M	DWR	233, 392
Old River at Holland Tract	108a	2N/4E-19	March 1952	М	USBR	234
Old River at Mandeville Island	112	2N/4E-6	Dec. 1954	М	D∀R	235, 366
Old River at Orwood Bridge	108	1N/4E-17	Sept. 1952	М	D'√R	236, 392
Old River near Tracy	103	2S/5E-6	Oct. 1952	М	DWR	237, 392
Paynes Creek near Red Bluff	88g	28N/2W-3	Oct. 1958	М	DWR	238, 391
Pit River near Bieber	17e	37N/7E-34	Oct. 1958	М	DWR	239, 386
Pit River near Canby	17a	41N/9E-10	April 1951	М	D₩R	240, 365, 386
Pit River near Montgomery Creek	17	35N/1W-32	April 1951	М	DWR	241, 386
Pit River, South Fork near Likely	18a	39N/13E-11	Aug. 1958	М	Di/R	242, 387
Putah Creek near Winters	81	8N/2W-27	Dec. 1951	М	DWR	243, 366, 390
Red Bank Creek near Red Bluff	88d	26N, 5W-22	Jan. 1959	М	DWR	244, 391

a Location is referenced to Mt. Diablo Base and Meridian
b Beginning of record
c M-Monthly, B-Bimonthly, A-quarterly, S-Semiannually, I-Irregular, D-Composites of samples collected daily
d USGS-United States Geological Survey, Quality of Water Branch; USER-United States Bureau of Reclamation;
DWR-Department of Water Resources; USCE-United States Army Corps of Engineers

CENTRAL VALLEY REGION (NO. 5) (Continued)

Station	Station Number	Location	Period D of Record	Frequency cof Sompling	Sompled d	Analysis on page
Rock Slough near Knightsen	109	2N/3E-33	Sept. 1952	М	DIAR	245, 392
Sacramento River at Bend	12c	2811/3/1-20	Aug. 1959 May 1955	M D	DWR USGS	246, 365, 385 247, 248, 249
Sacramento River at Boyers Bend	14c	13N/1E-22	July 1960	D	USGS	250, 251, 252
Sacramento River at Butte City	87a	19N/1W-32	Aug. 1959	М	DWR	253, 254, 255, 256, 390
Sacramento River at Colusa	13ъ	19N/17-32	Oct. 1958	М	DWR	257, 365, 385
Sacramento River above Colusa Trough	146	11N/2E-14	July 1960	М	DWR	258, 365, 386
Sacramento River at Delta	11	36N/5N-35	April 1951	М	DWR	259, 385
Sacramento River at Freeport	15b	7N/4E-14	June 1960 June 1960	M D	DWR USG3	260, 365, 386 261, 262, 263
Sacramento River near Hamilton City	13	22N/14-20	April 1951	М	DWR	264, 365, 385
Sacramento River at Keswick	12	32N/5W-28	April 1951	М	DWR	265, 365, 385
Sacramento River at Rio Vista	16	4N/3E-30	April 1951	М	DWR	266, 365, 386
Sacramento River at Snodgrass Slough	97	6N/4E-22	June 1938	М	USBR	267
Sacramento River at Toland Landing	15a	3N/SE-SI	July 1952	Feb-Oct	USBR	268
Sacramento Slough near Knights Landing	14a	111N/2E-20	June 1951	М	DWR	269, 386
Salt Slough at San Luis Ranch	24c	9S/11E-7	Nov. 1958	M	DWR	270, 388
San Joaquin River at Antioch	28	2N/2E-18	April 1951	М	DWR	271, 388
San Joaquin River at Brandt Bridge	101a	1S/6E-9	*	Q	USBR	272
San Joaquin River at Crows Landing Bridge	26ъ	6s/9E-7	Jan. 1962 June 1952	M M	DWR USBR	273, 388 274
San Joaquia River near Dos Palos	25a	115/13E-12	Jept. 1938	M	USBR	275
San Joaquin River at Fremont Ford Bridge	25c	7S/9E-24	July 1955	14	DWR	276, 365, 388
San Joaquin River at Friant Dam	24	11S/21E-7	April 1951	И	DWR	277, 388
San Joaquin River at Garwood Bridge	101	ln/6E-16	Sept. 1952	И	DWR	278
San Joaquin River near Grayson	26	45/7E-24	April 1951	И	CCSF	279, 388
San Joaquin River at Hills Ferry Bridge	250	7s/9E-3	Oct. 1958	М	DWR	280, 388
San Joaquin River at Jersey Point	28ъ	2N/3E-6	July 1952	Feb-Oct	ŲSBR	281
San Joaquin River at Maze Road Bridge	26a	38/7E-29	April 1951	И	CCSF	282, 388
San Joaquin River near Mendota	25	13S/15E-7	April 1951	М	DWR	283, 388
San Joaquin River above Merced River	30a	11S/13E-12	Jept. 1938	М	USBR	284
San Joaquin River at Mossdale Bridge	102	2S/6E-4	Sept. 1952	М	DWR	285, 392
San Juaquin River at Patterson Bridge (at Patterson Jater Company)	278	73/9E-3	Jan. 1962 June 1938	M M	DWR USBR	286, 388 287
San Joaquin River above Salt Slough	111b	7s/10E-36	Sept. 1955	М	USBR	288
San Joaquin River at San Andreas Landing	112b	3N/3E-13	March 1952	М	USBR	289
San Joaquin River near Vernalis	27	38/65-13	April 1951 March 1951	M D	DWR USGS	290, 365, 388 291, 292, 293, 294
San Joaquin River at West Stanislaus ID Intake	276	4S/7E-10	June 1938	М	USBR	295
San Joaquin River at Whitehouse	246	13S/15E-25	Nov. 1953	1	USBR	296
Stanislaus River near Mouth	29	3S/7E-17	April 1951	М	DWR	297, 365, 389

a Location is referenced to Mt. Diablo Base and Meridian

a Location is referenced to Mt. Macto Ads.

b Reginning of record

* August 1940 - June 1945, March 1948 - December 1955, and March 1957 to date

c M-Monthly, B-Bimonthly, Q-Quarterly, S-Semiannually, D-Composites of samples collected daily, I-Irregular

d DWR-Department of Mater Resources; USGS-United States Geological Survey, Quality of Mater Branch;
USBR-United States Bureau of Reclamation; CCSF-City and County of San Francisco

CENTRAL VALLEY REGION (NO. 5) (Continued)

Station	Stotian Number	Location	Period b of Record	Frequency ^C of Sompling	Sompled ^d	Analysis on page
Stanislaus River below Tulloch Dam	29a	1S/12E-1	July 1956	М	DWR	298, 389
Stockton Ship Channel on Rindge Island	100	2N/5E-28	Sept. 1952	М	DWR	299
Stony Creek at Black Butte Dam Site	13c	23N/4W-29	Jan. 1958	М	DWR	300, 385
Stony Creek near Hamilton City	13a	22N/2W-36	April 1951	М	DWR	301, 365, 385
Thomes Creek near Mouth	956	25N/3W-35	Jan. 1959	M	DWR	302, 391
Thomes Creek near Paskenta	13d	23N/6W-4	Oct. 1958	М	DWR	303, 385
Tule River below Success Dam	91	22S/28E-3	July 1952	М	DWR - USCE	304, 366, 391
Tuolumne River below Don Pedro Dam	31a	35/14E-3	April 1951	M	CCSF	305, 389
Tuolumne River at Hickman-Waterford Bridge	30	3S/11E-34	April 1951	М	CCSF	306, 389
Tuolumne River at Tuolumne City	31	45/8E-7	April 1951	М	CCSF	307, 366, 389
Yuba River at Marysville	21	15N/4E-18	April 1951	М	DWR	308, 365, 387
Yuba River near Smartsville	21a	16N/6E-20	April 1951	М	DWR	309, 387

a Location is referenced to Mt. Diablo Base and Meridian
b Beginning of record
c M-Monthly, B-Bimonthly, Q-Quarterly, S-Semiannually, D-Composites of samples collected daily, I-Irregular
d DWR-Department of Water Resources; USCS-United States Geological Survey, Quality of Water Branch;
USBR-United States Bureau of Reclamation; USCE-United States Army Corps of Engineers;
CCSF-City and County of San Francisco

LAHONIAN REGION (NO. 6)

Station	Station Numaei	Location	Period b of Record	Frequency ^C of Sompling	Sampled d by	Analysis on poge
Carson River, East Fork near Markleeville	115	10N/20E-27	Sept. 1958			311, 393
Carson River, West Fork at Woodfords	115a	11N/19E-34	Aug. 1958			312, 393
Lake Tahoe at Bijou	39	13N/18E-33	April 1951			313, 393
Lake Tahoe at Tahoe City	38	15N/17E-7	April 1951			314, 367, 393
Lake Tahoe at Tahoe Vista	37	16N/17E-14	April 1951			315, 393
Mojave River at the Forks	67a	3N/3W-18**	July 1957			316, 393
Mojave River near Victorville	67	6N/4W-29**	March 1951			317, 367, 393
Susan River at Susanville	17b	30N/12E_31	April 1951			318, 393
Truckee River near Farad	53	18N/17E-12	April 1951			319, 367, 393
Truckee River near Truckee	52	17N/16E-28	April 1951			320, 393
Walker River, East near Bridgeport	116a	6N/25E-34	Aug. 1958			321, 393
Walker River, West near Coleville	116	6N/23E-9	Aug. 1958			322, 393
					,	

a Except as indicated below, location is referenced to Mt. Diablo Base and Meridian

* Mumboldt Base and Meridian

** San Bermardino Base and Meridian

b Beginning of record

c All stations sampled monthly

d All stations sampled by Department of Water Resources



COLORADO RIVER BASIN REGION (NO. 7)

Station	Stotion Number	Location	Period b of Record	Frequency ^C of Sompling	Sompled d	Anolysis on page
Alamo River near Calipatria	60	115/13E-22	March 1951	В	DWR	323, 395
Alamo River at International Boundary	59	17S/16E-18	Feb. 1951	В	D₩R	324, 395
All-American Canal near Pilot Knob	56a	16S/21E=24	May 1953	s	D'//R	325 , 39 5
Colorado River near Blythe	56c	7S/23E-2	May 1953	s	DWR	326, 395
Colorado River at Colorado River Aqueduct Intake (Lake Havasu)	56d	3N/2 7 E-28	Nov. 1953	М	MWD	327
Colorado River below Morelos Dam	56b	8\$/24W = 28*	May 1953	S	DWR	328, 395
Colorado River below Parker Dam	55	2N/27E-16	April 1951	S	DWR	329, 395
Colorado River near Topock, Arizona	54	7N/24E-8	April 1951	S	DWR	330, 395
Colorado River near Yuma, Arizona	56	16\$/22E_36	April 1951	S	DWR	331, 369, 395
New River at International Boundary	57	17S/14E-14	April 1951	В	DWR	332 , 39 5
New River near Westmoreland	58	12S/13E-30	Feb. 1951	В	DWR	333, 395
Salton Sea at Salton Sea State Park	68a	75/10E-2	March 1955	В	DWR	334, 396
Whitewater River near Mecca	68b	7S/9E-31	July 1957	В	DWR	335, 396
Whitewater River near Whitewater	68	3S/3E-2	Feb. 1951	В	DWR	336, 395

a Except as indicated below, location is referenced to San Bernardino Base and Meridian
* Gila and Salt River Base and Meridian
b Beginning of record
c M-Monthly, B-Eimonthly, Q-Quarterly, S-Semiannually
d DWR-Department of Water Resources; MWD-Metropolitan Water District of Southern California



SANTA ANA REGION (NO. 8)

Station	Station Number	Location	Period D of Record	Frequency Cot of Sompling	Sompled d	Analysis on page
Chino Creek near Chino	86	2S/8W-36	April 1952	м	DWR	337, 397
Lake Elsinore near Elsinore	89	6s/5W-1	Feb. 1952	В	DWR	338
Santa Ana River near Arlington	51	2S/6W-25	Jan. 1951	М	DWR	339, 371, 397
Santa Ana River near Mentone	516	1s/2W-4	April 1951	М	DWR	340, 397
Santa Ana River near Norco	51e	2S/7W-36	April 1951	М	DWR	341, 371, 397
Santa Ana River below Prado Dam	51a	3S/7W-29	April 1751	М	DWR	342, 371, 397
Warm Creek at Colton	50b	1S/4W-21	April 1951	M (TID)	CSB	343, 344, 345, 371,
Warm Creek at San Bernardino	50c	1S/4W-15	April 1951	М	CSB	397 346

a Location is referenced to San Bernardino Base and Meridian
b Beginning of record
c M-Monthly, B-Bimonthly, TID-Three times each day
d DWR-Department of Water Resources; CSB-City of San Bernardino



SAN DIEGO REGION (NO. 9)

Stotion	Station Number	Location	Period of Record	Frequency of . Sampling	Sampled d	Analysis on page
Escondido Creek at Harmony Grove	63	12S/2W-30	March 1951			347, 373, 399
Forester Creek at Mission Gorge Road	65a	15S/1W=28	March 1954		}	348
San Diego River at Mission Gorge Road	65c	16s/2W-35	July 1962			349, 399
San Diego River at Old Mission Dam	65	15S/2W-25	April 1951			350, 373, 399
San Dieguito River near San Pasqual	64	13S/2W-1	April 1951			Dry in 1962 - 351
San Luis Rey River near Pala	62	95/2W-36	March 1951			352
Santa Margarita River near Fallbrook	51c	95/4W-12	Feb. 1951			353
Spring Valley Creek near La Pressa	656	17S/1W=17	March 1958			354, 399
Tia Juana River at International Boundary	66	19S/2W-1	April 1951			Dry in 1962 - 355

a Location is referenced to San Bernardino Ease and Meridian b Beginning of record c All stations sampled bimonthly d All stations sampled by Department of Water Resources



TABLE B-10

NORTH COASTAL REGION (NO. 1)

ANTELOPE CREEK NEAR TENNANT (STA. 1e)

		Anolyzed by i		USGS											
	4	Os CoCO3 IIY MPN/mi													
	Tur-	- piq		Н			н	m	Q	O.			0	7	N
		dnsss Cacos	o Eda	0			0	0	0	0	0	0	0	0	0
			Tatol	た			55	17	14	18	55	55	24	20	
	Psr-	- pog		19			50	772	56	27	45	27	2.2	55	23
	Total	solids solids	ndd II.					194				62f 588			
		Other constituents						Pol, 0.00				Pol, 0.05			
		on Silica (SiOs)	2	OI.			OI	0 55	el	01	OI.	01	01	OI.	0
	million psr million	Boron (B)		<u>،</u>			0.0	0.0	0.1	0.0	0:0		0.0	0:0	0.0
	D&C L	Fluor						0.01				0.00			
	equivalents per million	Ni- frote	(NO3)					0.00				0.02			
1	ganive	Chla-	(î)	1.2			0.08	1.8	0.0	0.0	1.5	0.08	0.03	0.00	0.00
	ui s	Sul -	(80,					0.05				0.0			
	tituent	Bicar - banate	(HCO ₃)	34			31	25	21	26	36	36	38	31	0.52
	Mineral constituents	Carban-	(co ₃)	0000			000	0.00	00.00	0.00	0.00	0.00	0.00	0.00	8
	Min	Patas-	3					0.0				0.0			
		Sodium P		2.5			2.6	2.6	2.3	3.0	3.2	3.9	0.18	2.6	0.13
		Magne- g	(Mg)					0.08				1.5			
		Calcium (Ca)	(00)	0.48c			0.44c	5.2	0.28c	0.36°	0.45c	0.31	0.48°c	0.39c	0.43°
1		T .	a/b	7.1			7.2	7.5	7.5	7.5	7.7	7.5	7.6	7.2	
-	pecific	(micramhas at 25°C)		59	SEABLE	SSABLE	54		37	27	09	61	62	53	\$
ſ		1	%Sot	79	ROADS IMPASSABLE	ROADS IMPASSABLE	28	80	78	88	83	93	81	85	%
		Dissolved oxygen	b mdd	10.9		- ROAD	10.1	10.7	6.6	9.3	8.3	8.8	9.3	11.1	11.8
-				36	SAMPLED	SAMPLED	777	140	24	55	09	65	67	07	%
		Discharge Temp		17	NOT SAMP	NOT SAMP	23	18	109	53	15	11.7	27	38	3.5
		ond time sampled	P.S.T.	1/8	2/7	3/7	4/4 1600	5/15 1035	6/12	7/5	8/13	9/12	10/3	11/14	17,01
											-93-				

a Field pH.

b Labaratary pH.

c. Sum of calcium and magnesium in Apm. decay (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁶), reparted here as $\frac{0.0}{0.00}$ except as shawn. d. Iron (Fe), aluminum (Al), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁶), reparted here as $\frac{0.0}{0.00}$ except as shawn. c Sum of calcium and magnesium in epm.

Derived from canductivity vs TDS curves

Determined by addition of analyzed constituents.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Duality of Water Branch (USCS); United States Department of the Interior Sureeu of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardina Courtry Flood
Control District (SBCFCD); Metropolitan Water District of Southern California (WWD); Las Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH), City of Long Beach, Department of Water Resources (DWR); as indicated.

NORTH COASTAL REGION (1)

BIG RIVER NEAR MOUTH (STA. 9C)

			Anolyzed by i		uses												
		£	Pid Collform														
		- 15 L	- Pid -		H	140	110	н	7	7	п	7	7	7	4	35	
		-	Totol N.C.		0	0	0	0	0	0	0	0	0	0	0	0	
					78	36	37	99	75	86	83	80	84	85	88	65	
		Per	Bod -		23	29	26	25	54	25	26	28	25	25	23	25	
		Totol dis-	solved solide in ppm		129 ^e	65 e	999	114	120 ^f	138 ^e	141	137 ^e	1358	142	146e	108	
			Other constituents						PO ₄ 0.05				PO ₄ 0.10				
			Silico (SiO ₂)						13				14				
		Lion	Boron (B)		0.2	0.0	0,1	0.4	0.2	0.1	0.4	0.4	0.5	0,3	0.4	0.2	
·	ports per million	per million	Fige ride (F)						0.00				0.00				
(SIA. y		equivolents	nt- trote (NO ₃)						0.1				0.6				
MOUTH	ă	equiv	Chio- ride (CI)		8.0	5.5	5.5	6.0	6.2	6.8	8.0	8.2 0.23	8.2 0.23	9.6	7.2	1.2 0.03	
BIG KIVER NEAR MOUTH (SIA. 9C)	9	- 1	Sut - fote (SO ₄)						8.0				6.0				
BIG KIV	atrianti		Bicor- bonote (HCO ₃)		98	48	48	86	98	112	114	116	122	122 2,00	125	1.46	
	Mineral	- 1	Corbon- ote (CO ₃)		0000	00.00	0.00	00.00	00.00	00.00	0.00	0000	0000	0000	00.00	0000	
	Min		Potos- sium (K)						0.04				1,3 0,03				
			Sodium (No)		11 0.48	6.6	6.3	10	0.48	13 0,57	13 0.57	14 0.61	13 0,57	13 0.57	12 0,52	9.8	
			Mogne- sium (Mg)						6.7				7.1				
			Calcium (Co)		1.57	0.72 ^c	0.75°	1.33°	19	1.72°	1.65	1,60°	$\frac{22}{1,10}$	1.70°	1.76°	1.31°	
		_	T d		7.2	7.0	7.3	7.7	7.8	7.4	7.8	7.4	7.0	7.3	7.4	7.3	
		Soecific	conductance (micromhos of 25°C)		196	66	101	173	194	210	215	209	220	216	222	165	
	66.0 =				91	06	91	986	110	111	116	74	986	96	95	93	
	0 = 6		Oxygen ppm %So		11.1	10.0	10.2	9.1	11.0	11.3	10,5	7.5	8.6	9,3	10.5	10.6	
		ŀ	Eo ri		4	51	20	55	59	58	89	58	59	09	51	67	
			Dischorge Temp in ofs in oF		21 (eet.)	1118 (est.)	341 (est.)	114 (est.)	82 (est.)	36 (est.)	14 (est.)	15 (est.)	(est.)	25 (eet.)	20 (est.)	380 (est.)	
			sompted P.S.T.	1962	1/9	2/14 1650	3/7	4/11 1145	5/9 0941	6/6 0845	7/9 1820	8/8 1225	9/12 0950	10/9	11/14	12/11 1210	

b Laboratory pH

Sum of colcium and magnesium in epm.

Sum of colcum and magnessium in epin.

Iron (Fe), oluminum (AI), areas (Co), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr.*5), reported here as 0.00 except as shown.

Derived from conductivity vs TDS curves. f = 0.656

Determined by addition of analyzed constituents.

Grovimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Mater and Power (LADWP); City of Los Angeles, Department of Southern California (WMD), Las Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Southern California Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); ar California Department of Water Resources (DWR); as indicated.

NORTH COASTAL REGION (NO. 1)

			Anolyzed by 3	nsgs													
		4	bid - Coliform" ity MPN/ml										•				
		Tur-	- bid - ty made	a		5	10	9	m	Q	m	CI	m	5	m		
			N.C. PPM	0		0	0	0	0	0	0	0	0	0	0		
			Hardness oe CoCO ₃ Total N.C. ppm ppm	30		24:	56	23	77.2	56	39	28	27	83	56		
		Par	sod -	19		25	22	25	23	56	56	30	27	56	7.7		
		Totol	solved solids in ppm					58f				55f 698					
			Other constituents					PO4 0.00				PO4 0.00					
			Silico (SiO ₂)					25				15					
	ا	Hon	Boron (B)	0.0		0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0		
	million	per million	Fluo- ride (F)					0.0				0.0					
TA. 1d)	parts per millian	equivalents	Ni- trote (NO ₃)					0.00				0.5					
BUTTE CREEK NEAR MACDOEL (STA. 1d)		equiv	Chio- ride (CI)	0.03		000	0.03	0.03	0.0	0.0	0.03	0.0	0.03	0.0	0.0		
EAR MA			Sul - fote (SO ₄)					0.00				0.0					
CREEK N	***************************************	11101116	Bicar- bonate (HCO ₃)	010		99 <u>*0</u>	38	32	35	42	63	17.0	44 0.72	36	99.0		
BUTTE	Mineral Co.		Carbon- ate (CO ₃)	00.00		0:00	0.00	0.00	0.00	0.00	0.00	0.00	0000	0.00	00:00		
	N		Potos- sium (K)					0.03				0.02					
			Sodium (No)	3.3		3.7	3.3	3.7	3.3	0.18	6.1	5.5	4.7	3.4	0.17		
			Mogne- sium (Mg)					0.12				2.3	_				
			Calcium (Ca)	<u>>09°0</u>		0.480	0.52°	6.8	0.48c	0.520	0.78°	0.36	0.54c	0.43c	0.536		
			a/b	7.7		7.7	7:4	7:4	7.5	7.7	7.9	8.19	7.0	7.5	7.3		
		Specific	conductonce (micromhos at 25°C)	70	IMEASSABLE	69	29	19	61	71	101	11	75	61	69		
				81		80	87	%	88	お	96	95	89	89	87		
			Disso Oxy PPM	11.7	ROADS	11.5	9.8	9.6	80	4.8	±. ∞	9.3	9.3	11.4	12.4		
		1	Te ni	33	SAMPLED	33	55	51	19	77	72	62	57	41	34		
			Dischorge Temp in cfs in of Est. by Sampler	80	NOT SAM	10	25	35	35	22	4	1.5	٧.	15	50		
			and time sompled P.S.T.	1/8	2/7	3/7	4/4	5/15 1145	6/12	7/5	8/13	9/12	10/3	11/14	12/11		

b Laboratory pH.

Sum of colcium and magnesium in epm.

Sum of coictum and magnessian in Epin.

Iron (E.), always (E.), supported here os 0.00 except as shown.

Iron (E.), always (E.), supported here os 0.00 except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination

h Annual median and range, respectively Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, at United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Water and Power (LADWP); City of Las Angeles, Department of Surhern California (WWD), Las Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Surhern California Department of Water Resources (DWR); as indicated.

NORTH COASTAL REGION (NO. 1)

			Analyzed by i		USGS											
	\vdash		ĒĒ													
			ds CaCO ₃ ity MPN/ml													
	_	Ţ.,	P G	. i E		7	700	15	-7	-CU		- 5	CI .	- 80		02
			Caco	N G	9	5 - 5	4 5	- 1	٧.	-:t	- 6	1 0	0	00	0	· · · · · · · · · · · · · · · · · · ·
				Tatol ppm	8	85	45	55	8	102	109	100	91	96	106	13
		-	P S C S C	E	13	15	177	13	f 114	17	16	21	f 22	17	15	15
		Tota	solved solids	a E					ızı				135f 145g			
			Other canstituents						PO1, 0.05	Tot. Alk. <u>120</u>		Tot. Alk. 121	PO1, 0.10 Tot. Alk. 108			
			Silico	N I	_				75				7			
		ion	Baron		6.3	0.0	0.1	0.2	0.2	0.2	0.3	7.0	0.5	7.0	0.1	8.
	million	per million	Flua-	_					0.0				0.01			
. 5d)	ports per million	1	Ni- frate	(NO ₃)					0.00				0.00			
EEL RIVER NEAR DOS RIOS (STA. 5d)	ď	equivalents	Chio-	(ĈĴ)	5.2	5.7	2.5	1.6	3.2	0.11	5.6	6.6	7.0	0.20	5.1	8.00
R DOS R			Sul -	(\$04)					14 0.29				16			
VER NEA	410000	0000	Bicar-	(HCO ₃)	102	98	50	1.08	106	110	127 2.08	119	96	1.75	132	1.19
EEL RI	Moseum	- 1	Corbon-		00.00	00.00	00.00	0.00	00.00	5.17	00.00	0.03	0.20	00:00	00.00	00.00
	M		Potos-	E					1.1		_		0.03			
			Sodium (No)		5.9	7.1	3.5	3.9	0.30	7.9	9.7	12 0.52	12 0.52	9.2	0.37	0.25
			Mogne- Stum	(Mg)					8.4				8.8			
			Calcium (Ca)		1.80c	1.70°	06.0	1.10	23	2.04c	2.19	2.00c	1.10	1.92	2.120	1.45°
			Ha	a/b	7.7	8	7.7	7.5	8 1	7.8	8 8 2	0 m	0 0	7.7	88.1	7.8
		Specific	(micromhos		201	197	100	128	201	223	247	241	525	227	239	165
				%Sot	93	92	97	76	117	119	921	85	113	89	%	ま
		i	っぷト	Edd	7.11	11.3	11.7	10.5	11.9	10.2	10.6	ω. ω.	9.8	φ. φ.	9.01	10.9
			E E		44	717	54	½	59	47	77	62	73	61	52	8 7
			Dischorge lemp		06	75	3,730	1,590	107	36	8.8	5.7	4.2		100	\$ 54
			sampled sampled	1962	1/8	2/5	3/5	1140	5/10	6/6 1340	7/10	8/8	9/12	10/10	11/14	1630

a Field pH.

b Loboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), oluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reparted here as 0.0 except as shown.

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves.

g Gravimetric determination.

h Annual median and range, respectively, Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Labaratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR), United States Department of Southern California (WWD). Las Angeles Department of Water and Power (LADWP), City of Las Angeles, Department of Public Health (LADPH), City of Lang Beach, Department of Public Health (LADPH), Terminal Testing Labaratories, Inc. (TTL), or California Department of Water Resources (DWR), as indicated.

TABLE B-10

NORTH COASTAL REGION (NO. 1)

		Anolyzed by 1	USGS												
		Hardness bid - Coliform as CoCOs Ity MPN/mil Tatol N.C. Ppm	Maximum 620.	Minimum 0.23	Median 6.2										
		- p p p p p p p p	н	0,7	ngo ngo	22	3.5	CV .	9.0	н	-7	m	н	oga	
		Pp C C C S	21	7	9	m	CV .	.3	9	Φ	10	14	9	n	
		1 1	87	81	57	58	79	79	107	113	122	120	111	95	
		po uni	10	12	13	1	13	7	12	12	12	21	#	E	
	Total	solids in ppm					881				158f 1566				
		Other constituents					PO1, 0.00		Tot. Alk. 123		PO _{1, 0.30}		Tot. Alk. 128		
		(2018) (Silico					7.6				6.5				
	Hon	Boron (B)	0.1	0.1	0.0	0.1	0.0	0	0	0.1	0:0	0.1	0:0	0:1	
	per million	Fluo- ride (F)					0.01				0.0				
. 5)				-			0.00				00.00				
EEL RIVER NEAR MCCANN (STA. 5)	ports pe	Chlo- rids (C!)	4.2	4.0	0.00	0.00	0.00	0.07	4.4	6.0	7.0	8.5	5.0	0.05	
EAR McC	u s	Sul- fats (SO ₄)					0.23				21.0				
RIVER N	nstitusof	Bicor- banote (HCO ₃)	92	00 11.148	62	01.10	75	32	11.92	128 2.10	136	2.11	120	1.07	
EEL	Mineral constituents	Corban- ate (CO ₃)	000	0000	00.0	00.00	00.00	00.00	0.10	00.00	0000	00.0	4 0.13	000	
	Min	Potos- sium (K)					0.0				1-1				
		Sodium (N0)	0.50	5.0	3.9	3.3	0.19	4.3 0.19	6.6	7.4	7.9	0.33	6.5 0.28	0.17 0.17	
		Magne- sium (Mg)					0.33				7.8				
		Colcium (Ca)	1.740	1.02c	1.140	1.16	0.95	1.580	2.140	2.200	36	2.40c	2.22c	1.12°	
		pH 8/b	7.4	7.5	25.5	7.7	8.0.8	8 8	8 8 7 7 7	2.1	000	8.0	8.3	7.0	
	Sparific	conductance (micromhas at 25°C)	189	174	124	128	177	174	232	24.7	265	564	231	119	
		ygan (%Sot	88	76	97	8	95	86	109	85	93	66	689	201	
		Dissolvsd oxygen ppm %Sol	10.8	11.5	11.6	10.6	av wi	4.6	9.5	7.9	20	9.6	9.5	11.4	
		Temp in OF	44	L 17	917	75	62	79	73	67	99	63	58	51	
		Dischorgs Temp in cfs in oF Not Rated													
		Dote ond time sompled P.S.T.	1/9	2/5	3/5	1500	5/9	6/5	7/10	8/7	9/6 0940	10/9	11/6	12/4 1310	
										02					

b Lobaratory pH

c. Sum of calcium and magnesium in epm

c. Sum of colcium and magnessium in epm. d. lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr. ⁶), reparted here as 0.0 except as shown. d. Iron (Fe), aluminum (Al), arsence (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr. ⁶), reparted here as 0.0 except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USCS), United States Department of the Interior, Surceu of Reclamation (USR); United States Geological Survey, Quality of Water Branch (USPKS); Las Angeles Department of Water and Power (LADWP), City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH), Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated.

NORTH COASTAL REGION (NO. 1)

		Analyzed by 5	USGS											
		bid - Califormh ity MPN/mi	Maximum 620.	Minimum 0.06	Median 6.2									
		Pid- bid- ity inggun	Н	4	55	50	13	N	н	7	N	170	г	320
		N C O	9	~	9	N	9	m	m	C)	Н		6	m
			8	80	148	63	77	8	119	132	137	100	108	23
-		Sod -	13	7,7	17	12	12	12	13	77	13	18	13	179
	To to	salved solids in ppm					105f	_			171 ^f 175 ^g			
		Other constituents					PO ₄ 0.00 As 0.00 ABS 0.0		Tot. Alk. 142		PO ₄ 0.20 As 0.00 ABS 0.0 Tot.Alk.166			
		Silica (SiO ₂)					1.5				21			
	lion	I 5	0.1	0.1	0.1	0.0	0:0	0.1	0.1	0.1	0	ं।	0.2	0.1
	r million	Fluo- ride (F)					0.00				000			
(9)	ports per million equivalents per mil	Ni- trate (NO ₃)					0.0	-			0.3			
A (STA.	Pod	Chlo- ride (Cl)	6.2	0.13	3.2	2.5	3.7	3.5	6.4	9.6	0.25	6.5	0.14	0.05
SCOTI	Ē	Sul - fote (SO ₄)					0.23				12 0.25			
EEL RIVER AT SCOTIA (STA. 6)	constituents	Bicar- bonate (HCO ₃)	102 1.67	92	51 0.84	1.21	1.41	106	134	158	2.59	109	121	1.00
TEEL		Carbon- ate (CO ₃)	00.00	00.0	00.00	00.00	000	0.0	h 0.13	00.00	0.13	00.0	000	00.0
	Mineral	Potas-C Sium (K)					0.03				1.1			
		Sodium (Na)	6.3	0.50	0.50	4.0	5.1	5.7	8.4	9.7	0.0	10 0.44	7.3	0.25
		Mogne- Sium (Mg)					6.0				0.89			
		Calcium (Ca)	1.800	1.60°	0.90°	1.25°	27	1.80c	2.380	2.64°	37	2.000	2.16°	38
		рн в/ъ	7.4	8.1	7.3	8.0	8.1	8.1	2 H	8.2	010 017	8.0	7.7	W.C.
		conductance (micromhos at 25°C)	204	178	112	139	170	200	258	285	294	231	232	116
		1 6	06	101	95	98	76	102	135	16	123	91	7	100
		Oissalved axygen ppm %Sc	10.6	11.4	11.2	10.7	رم ش	5.6	11.6	ω 	11.7	9.3	7.5	10.9
		Temp	Lη	50	14	53	1 9	19	1/2	29	65	59	55	53
		Dischorge Temp in cfs in of	1,580	2,860	. 000 ,82	8,730	2,450	1,010	244	240	108	3,160	1,040	35,200
		Sompled	1/9	2/5	3/5	4/2 1605	5/8 1730	6/5	7/10	8/8	9/6	10/10	11/7	12/4 1425

a Field pH

b Laborotary pH

c. Sum of calcium and magnesium in epm.

c. Sum arcactum and inagression in Epin.

d. Iron (Fe), oluminan (AI), reported here as 0.0 except as shown.

d. Iron (Fe), oluminan (AI), exported here as 0.0 except as shown.

o.00 e Derived from canductivity vs TDS curves.

Determined by addition of analyzed constituents.

g Gravimetric determination

I Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior of Survey and Power (LADMP); City of Las Angeles, Department of Public Health (LADPH); City of Las Angeles, Department of Water District of Southern California (WMD); Las Angeles Department of Water and Power (LADMP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

NORTH COASTAL REGION (NO. 1)

REL RIVER, MIDDLE FORK AT DOS RIOS (STA. 5c)

		Anolyzed by 1	USGS											
		Hordness bid - Coliform ⁿ os CoCO ₃ lity MPN/ml Total N.C. nppm												
Į	_ [- piq - hid wad u	н	4	120	09	10	CV .	н	2	10	7100	7	15
		SCO3 PPM.C.	0	9	00	4	9	2	13	16	56	23	m	ο
		Total PPM	17	19	89	52	51	69	107	911	125	122	78	73
-	0	t pos		12	7	6	7	11	13	18	18	16	I	10
	Total	solvad solids in ppm					67 [£]				176 ^f 160 ^g			
		Other constituents					PO ₄ 0.10 As 0.01 ABS 0.0			Tot. Alk. 122	POL 0.00 AS 0.00 ABS 0.0 Tot.Alk.121			
		Silico (SiO ₂)					8.6				9.0			
	lion	Boran (B)	0.2	0:1	0.0	0:0	0.0	0.0	0.8	0.1	0	0.1	0.0	0.0
20)	per million	Fluo- ride (F)					0.1				0.01			
W. (2.14	equivalents per mil	N1- trate (N0 ₃)					0.00				0.00			
DOS RO	equive	Chio-	3.2	2.6 0.07	0.04	1.4	0.03	8.00	0.50	0.39	18	0.93	0.14	0.07
FURK A	u .	Sul - fats (SO ₄)					0.9				30			
MINULE	constituents	Bicar- bonate (HCO ₃)	15	1.21	1.20	58	59 0.97	1.20	115	1.80	111	121	92	86 1.41
KEL KIVEK, MIDDLE FORK AT DOS KIUS (SIM. 50)	Mineral con	Corbon- ote (CO ₃)	000	000	000	0000	000	000	0000	0.20	50.17	00.0	00.0	00.00
722	Min	Potae- sium (K)					0.0				0.03			
		Sodium (No)	3.3	0.18	3.8	2.4	3.0	3.6	7.1	12 0.52	13	11 0.48	0.50	0.17
		Mogne- sium (Mg)					3.9				9.1			
		Calcium (Ca)	1.430	1.34c	1.36	1.040	14 0.70	1.300	2.14c	2.320	35	2.44c	1.500	1.47c
		в/р	7.5	8.0	7.9	7.5	7.0	888	80 80	8.5	8.1	7.9	8.1	8.1
	Spacific	conductance (micramhos of 25°C)	153	146	146	108	117	141	234	273	302	286	175	159
			22	93	98	97	108	113	117	78	116	8	66	. 25
		Dissolved oxygen Ppm %SG	11.5	11.5	12.0	11.3	11.8	10.4	8.6	80	10.1	9.5	1.1	11.5
		Te or	242	143	717	877	53	89	11	29	73	19	51	54
		Dischorge Temp in cfs in 0F	046	9119	2,930	3,750	1,010	1437	96	56	10		280	1,050
		ond time sompled P.S.T.	1/8	2/5	3/5	4/2	5/10 0715	6/6	7/10	8/8 1745	9/12	10/10	11/14	1650

a Field pH

b Laboratory pH.

c. Sum of calcium and magnessium in epm. d. (La), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr. ⁶), reported here as 0.0 except as shown. c. Sum of calcium and magnesium in epm

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardino County Flood Control District (SBCFCD); Metropolitan Water Obstruct of Sauthern California (WWD), Los Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

TABLE B-10 ANALYSES OF SURFACE WATER

NORTH COASTAL REGION (NO. 1)

EEL RIVER, SOUTH FORK NEAR MIRANDA (STA. 7)

200	$\overline{}$		_						_							
		Anolyzed by i	USGS													
		ity MPN/mi	Maximum 230.	Minimum 0.23	Median 6.2											
	j j	P A	7	7	07	10	7	ч	ч	ч	N	35	٦	180		
		200 N	4	0	m	0	0	7	0	0	0	0	0	0		
			70	62	17	53	72	.88	%	%	102	102	77	40		
		1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	16	19	19	18	18	16	17	18	19	18	17	22		
	Total	solved solids in ppm					105				139 [£] 140 ⁸					
		Other constituents					PO ₄ 0.05				Pol, 0.00 Tot. Alk. 134					
		Silico (SiO ₂)					77				7 8					
	Hion	Boron (B)	0 0	히	0:0	000	0.0	0	0.1	0.0	0.0	0	0.2	0.0		
	per million	Fluo- ride (F)					0.0				0.0					
NDA (STA. ()	equivolents						000				0.00					
EEL KIVER, SOUTH FORK NEAR MIRANDA (STA. 7)	vinbe	Chlo- cico)	5.3	5.7	3.5	0.11	6.5	0.14	8 T	6.0	8.6 0.24	9.2	4.5 0.13	3.4		
OHOK NED	5	Sul - fore (SO ₄)	•				9.0				0.2					
SOUTH	constituents in	Bicor- bonote (HCO ₃)	81 1.33	1.29	46 0.75	1.16	1.44	103	120	123 2.02	126 2.07	125 2.05	98	53		
KLVER,	Mineral con	Corbon- ote (CO ₃)	00.00	000	00.00	000	00.00	000	000	000	0.13	000	00.00	00.00		
793	M	Potos: (K)					0.0				0.03					
		Sodium (No)	5.9	6.8	4.4 0.19	5.4	0.32	0.33	0.39	9.9	11 0.48	10	7.4	5.4 0.23		
		Mogne- sium (Mg)					9.9				9.0					
		Colcium (Co)	1.39°	1.25°	0.82	1.0%	18	1.76°	1.92°	1.92°	26	2.03	1.540	0.80c	 	
		a/b	7.3	7.5	7.5	7:5	8:17	88.2	യയ	8 8	8.1	7.9	7.7	7.5		
	Specific	Conductance (micromhos of 25°C)	162	152	%	135	169	190	217	216	238	228	183	101		
-			100	88	93	98	100	112	120	16	96	%	93	102		
		Dissolved oxygen ppm %So	11.6	11.3	11.0	10.3	9.	10.4	10.3	e .	8	9.3	9.6	п.1		
		Temp in of	87	64	14	96	62	£9	75	69	19	63	<u>ه</u>	53		
		Discharge Temp	412	680	6,450	1,110	956	54	011	92		500 (est.)	340	8,210		
		sompled	1/8	2/5	3/5	14/2	5/9	6/5	7/10	1455	9/6	10/9	11/6	12/4		

a Field pH.

b Laboratory pH.

Sum of control on an anguestic form of the control c Sum of colcium and magnesium in epm.

Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents. g Grovimetric determination.

Annual median and range, respectively. Calculated from analyyses of duplicate monthly samples made by California Department of Public Health, Division of Lobaratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Department of Water and Power (LADWP); City of Las Angeles, Department of Survivir of Sacker, California (WWD); Las Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Sacker, California Department of Water Resources (DWR); as indicated.

TABLE 8-10

NORTH COASTAL REGION (1)

GUALALA RIVER. SOUTH FORK NEAR ANNAPOLIS (STA. 9A)

		Analyzed by 1			USGS											
		bid - Califormh			Median 23	Max. 7000.	Min. 0.62									
	100	- pig -			74	1000	85	₩.	9	m		6	7	2	2	4
		0 0 0 E	N		7	0	0	0	0	0	0	0	0	0	0	0
			Total		66	43	67	93	103	107	111	112	115	118	114	96
L		0 0 E			18	23	21	21	20	18	20	21	20	20	19	19
	Total	solved solves	in opm		137 ^e	65	73e	132 ^e	150 [£]	148	160	164	1728	168e	162	136
		Other constituents	- 1						PO ₄ 0,10				PO ₄ 1.3			
	1	Silico	(SiO						- 118				뙤			
1 . N .	ullion	Baran			0.0	0.0	0.0	0.0	0.1	이	0.1	0.1	0.1	0.0	0.2	0.0
C) CT	per million	Fluo-	(F)						0 0				0.0			
ANNAFOLIS (SIR	equivalents		(NO ₃)						000				0.7			
n wear	e quiv	Chlo-	(i)		8.0	5.0	5.0	7.0	6.8 0.19	6.0	9.3	9.6	9.0	12 0,34	7.2	6.6 0.19
GUALALA DIVER. SOUIT FORM WEAR ANNAFOLIS (SIN. 74)	e :	Sul -							13 0.27				0,23			
c · va	constituents	Bicor-	(HCO)		$\frac{116}{1,90}$	52 0,85	$\frac{61}{1.00}$	116	$\frac{129}{2.11}$	$\frac{132}{2.16}$	138	152	$\frac{152}{2•49}$	159	$\frac{152}{2.49}$	124 2.03
THEN WE	Mineral con	Carban	(600)		00.00	0000	0.00	00.00	0000	00.00	0.00	00.00	00.00	00.00	00.00	0000
305	Min	Patas-	(K)						0.04				0.03			
		Sadium	(Na)		10	5.8	5.9	0.48	12 0.52	0.48	13	14 0.61	13	14 0.61	12 0,52	0,44
		Magne-	(Mg)						10 0,86				12 1.00			
		Colcium	(00)		1.98	0.86	366.0	1.86	24 1,20	2.14c	2.22	2,25°	$\frac{26}{1,30}$	2.37 ^c	2.28c	1.93
		ī	8		7.3	7.1	7.4	7.5	8.0	7.2	7.6	7.6	7.3	7.2	7.6	7.4
	Socific	Conductance (micramhas			228	109	121	220	245	246	268	273	272	280	270	226
	86.0		%Sat		92	88	91	82	111	96	120	93	149	62	96	46
	8 8	Dissolved oxygen	Edd		10.7	8.6	10.5	8.8	10.8	8.7	10.8	0.6	13.4	6.1	10.1	10.8
		Ten or			848	51	649	54	63	29	70	63	70	62	56	67
		Discharge Temp			20	4,000	2,800	110	72	23	20 (eet.)	10 (eet.)	5.2	9.1	35	52
			P S.T.	1962	1/8 1652	2/14	3/7 0745	4/11 0830	5/8 1550	6/5	1358	8/7 1655	9/11	10/9 0915	11/13	12/10

a Field pH

b Laboratory pH

c. Sum of calcium and magnesium in epm.

c. Sum of calctum and magnessum in epin.

d. Iran (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (C^{+6}), reparted here as $\frac{0.0}{0.00}$ except as shawn.

Derived from canductivity vs TDS curves. £ = 0.600

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of the Interior, Bureou of Reclamation (USBR); United States Department of the Interior, Bureou of Reclamation (USBR); United States Geological Survey, Quality of Water Branch (USBS); United States Department of Water and Power (LADMP); City of Las Angeles, Department of Suthern California (WWD); Las Angeles Department of Water and Power (LADMP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE 2-10

ANALYSES OF SURFACE WATER NORTH COASTAL REGION (NO. 1)

KLAMATH RIVER ABOVE HAMBURG RESERVOIR SITE (STA. 1c)

		Analyzed by i	USGS					-						
		bid - Coliform Ity MPN/mi												
		n ppm	10	20	30	15	<i>~</i>	m	Н	m	m	-7	15	25
		N C	0	0	0	m	0	0	0	0	0	0	0	0
			68	62	96	100	98	83	1 8	75	78	75	80	, g
	ď	sod –	37	31	53	30	34	33	35	34	35	34	38	39
	Total	dis- solved solids in ppm					186f				148f 1416			
		Other canstituents					PO ₁ 0.20	Tot. Alk. 109		Tot. Alk. 115 POL 0.50	PO4 0.50	PO ₄ 0.35	PO ₄ 0.25	PO ₄ 0.25
ŀ		Silico (S:02)					81				8			
	llion	Boron (B)	0.1	0.1	0.1	0	0.2	0.1	0.2	0.2	0.1	리	0.1	2.0
a llia	per million	Fluo- ride (F)					0.0				0.0			
ports per million		Ni- trate (NO ₃)					0.0			0.5	1.6	2.7	2.4	0.02
	equivalents	Chio- ride (CI)	8.6 0.24	6.5	5.5	6.4	8.5	7.0	7.7	6.8	0.10	7.5	6.9	0 2 0
	ē	Sul - fate (SO ₄)					39				0.31			
	stituents	Bicor- bonote (HCO ₃)	122	114	119	118	114	1.02	112	107	116	120	124	2.00
	Mineral constituents	Corbon- ofe (CO ₃)	0.00	0.00	0.00	00.0	00.00	5.17	00.00	0.13	0.00	00.00	0.00	00.0
	Mine	Potos- Sium (K)					2.9				2.8 0.07			
		Sodium (No)	24 1.04	16	17.0	20	23	0.83	21 0.91	18 0.78	20	18	0.91	0.96
		stum (Mg)		-			0.89				9.2 0.7b			
		Calcium Magne- (Co) Stum (Mg)	1.78c	1.58c	1.80c	2.00c	0.95	1.66°c	1.69c	1.50c	0.80	1.50c	1.59°c	1.72°C
r		PH BH	7.5	7.5	7.7	7.7	8.8	8 0	80 0.1	7 7 7	200	7.9	9 10	8.7
	Specific	conductonce (micromhos at 25°C)	568	550	237	281	277	549	253	225	227	526	7 ⁴ 2	792
			8	06	8	69	108	8	011	100	111	100	お	₹.
		Dissolved daygen ppm %Sa	11.9	11.5	4.11	10.1	0.11	0.0	9.T	80	10.3	6.6	10.6	11.7
		Ten or or	39	147	27	20	59	99	72	72	19	19	20	F 7
		Oischorge Temp in cfs in OF Not Rated												
	4	sompled P.S.T	1/9	2/8 0835	3/8	4/5	5/16	6/13	7/6	B/14 1130	9/13	10/4	11/15	21/21 21/42

o Field pH

b Loboratory pH

Counties Contained and Section (Ca), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reparted here as $\frac{0.0}{0.00}$ except as shown. c Sum of calcium and magnesium in epm.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Health (LADPH); San Bernardino County Flood Control District (SBCFCD); Metropoliton Water District of Sauthern California Chifornia Chapter and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Mater Resources (DWR); os indicated.

NORTH COASTAL REGION (NO. 1)

KLAMATH RIVER BELOW IRON GATE DAM (STA. 1f)

		Anolyzed by i	USGS													
		os CoCO ₃ ity MPN/ml ppm ppm c	Maximum 2,400.	Minimum O.ué	Median 6.2											
	-	- piq - piq - ki)	10	.≓	20	15	-4	Q	CV .	ent	72	77	ur.	50		
		N COS	0	0	0	ω	ij	0	o o	0	0	0	(2	9		
		l'	0.	5	9	35	80	74	73	61	79	62	68	19		
	à	sod –	143	17	35	35	36	38	38	38	35	36	0.4	en -7		
	Total	solved solids in ppm					174f				128f					
		Other constituents					PO _{1, 0.25} As 0.00 ABS 0.0			Po4 0.45	PO4 0.10 A8 0.01 ABS 0.0	PO4 0.25	PO ₁ 0.20	PO4 0.20		
	1	Sitica (SiO ₂)		o.t	0.1	~1	75	0.5	.1		17					
	million	Boron (B)	0.1	0.0	0.2	0	0	0.8	0.1	<u>-</u>	0.0	0.1	0.0	0.1		
3	ber	Fluo- ride (F)					0.03				0.00					
M (STA	equivalents per million	rote (NO ₃)					0.05			0.0	0.05	2.4	0.07	0.05		
GATE DA	vinba	Chlo- ride (CI)	5.3	4.5	3.5	0.14	6.5	6.2	4.8	3-7	5.6	5.0	5.4	6.2		
M THOM	ē	Sul - fote (SO ₄)					1.00				177					
NEK BELO	constituents	Brear bonate (HCO ₃)	1.61	79	82 1.34	103	84 1.38	90	1.59	90 1.18	94	94 1.54	108	96 1.57		
KLAMAIR FLVER HELOW IRON GATE DAM (SEA. II.	Mineral cor	Carbon- (CO ₃)	00.0	00.00	00.00	0000	00.00	00.0	0000	0.00	O G	0.00	0.00	00.00		
Y Z	2	Potos Sium (K)					3.4				0.07					
		Sodium (No)	1.04	16 0.70	15	23	25	16.0	20	17.0	17 0.74	16	16.0	23		
		Mogne- sium (Mg)					10				0.58					
		Calcium (Ca)	1.40c	1.01	1.200	1.84c	0.75	1.480	1.450	1.22c	14	1.240	1.36°	1.34c		
		РН в√р	7:1	7.2	7.5	7.7	7:1	7.7	7.0	7.5	7.7	7.5	7.9	7.9		
	Specific	conductance (micromhos at 25°C)	234	169	181	280	263	243	237	161	1 18	189	227	238		
		1 75 1	78	22	13	98	98	100	102	26	8	80	83	96	 	
		Dissolved oxygen ppm %Sc	10.4	10.0	5.6	10.0	œ.	7.6	7.6	8.1	7.5	7.7	7.1	11,2		
		Temp in OF	38	38	017	148	58	63	89	69	29	19	53	er		
		Discharge Temp	2,200	1,680	1,630	2,630	1,730	928	668	951	1,25	1,610	2,900	3,270		
		ond time sampled P S.T.	1/9	2/;	3/7	07/77	5/16	6/13	3/4	8/14	9/13	10/4	11/15 0945	12/12		

b Loboratory pH

c Sum of calcium and magnesium in epm

Le Jum or careton and progression in the state of the sta

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior of Reclamation (USBR); United States Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Water Resources (DWR); as indicated.

NORTH COASTAL REGION (NO. 1)

		Anolyzed by i		USGS											
		bid - Coliform		Maximum 7,000.+	Minimum 0.045-	Median 6.2									
			2	m	4	90	25	13	C)	н	15	10	45	2	02
		Hordness os CoCO ₃	O E	0	0	c ₂	0	0	0	0	0	0	н	0	0
				99	99	26	75	48	57	70	29	78	77	47	₹.
		Sod I	E	18	18	12	13	16	17	18	50	22	14	54	18
	T.	solved	mdd ul					75 [£]				121 ^f 121 ^g			
			Other constituents					Po _{l, 1.6} As 0.00 ABS 0.0				PO _{L 0.05} ABS 0.0			
		Sinco	(\$0.5)					亦				15			
	100	1 8	(9)	0.1	0.2	0.0	0:0	0:0	0.0	0.0	0.1	0.0	0.0	0.0	1.0
	million	F100-	Ē.E					0.01				000			
STA. 3)	ports per million		(NO ₃)					000				000			
AMATE (7	Chio-	(CI)	3.7	0.00	2.2	1.7	1.6	0.00	0.11	5.4	5.1	0.00	5.1	8 0 0
YEAR KL	ē	Sul -	(SO ₄)					9.2				13			
KLAMATH RIVER NEAR KLAMATH (STA. 3)	constituents	Bicor -	(HCO ₃)	80	1.34	1.08	966	58 0.95	70	36	82 1.34	102	52 0.85	102	1.11
KLAMATH	Mineral con	Corban-	(CO ₃)	00.00	00.00	00.00	00.00	00.0	00.0	00.00	000	000	000	00.0	0000
	M	Polos-	E(X)		-			0.7				0.04			
		Sodium	(NO)	6.6	6.50	3.6	3.7	4.1 0.18	5.4	6.8	0.34	10	3.3	0.48	1 50 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		Mogne-	(Mg)					5.0				0.60			
		Colour	(co)	1.320	1.320	1.120	1.08°	0.55	1.140	1.40	1.33°	19 0.95	0.88c	1.48	1.08°
		I	a/b	7.3	7.7	8.0	7.5	7.9	7.4	8.1	7.5	7.7	7.5	2.5	7.7
	:	conductance (micromhos	at 25°C)	161	156	127	125	174	135	167	163	194	66	192	123
			%Sot	89	105	97	100	86	86	101	88	8	100	100	104
		Dissolvad	mdd	11.0	12.1	9.11	0.11	10.6	7.6	9•3	89	8.7	10.6	10.9	1.1
		Ten in of		7.	64	917	52	54	61	17	19	69	55	53	20
		Dischorge Temp		8,380	8,380	25,700	25,100	15,700	8,070	3,530	5,250	2,930	27,900	6,720	50,400
			P.S.T.	1/9	2/6	3/6	1305	5/10 0750	1300	7/11	8/9	9/7	10/11	11/8	1300
										0.01					

b Laboratory pH

c Sum of colcium and magnesium in epm.

c sum of colcium and magnesium in thin.

d Iron (Fe), aluminum (AI), arsanic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Grovimetric determination.

h Annual median and range, respectively Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laborataries, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Branch States Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Los Angeles, Department of Survey of Los Angeles, Department of Water Resources (DWR); as indicated.

TABLE R-10

NORTH COASTAL REGION (NO. 1)

			Andlyzed by 1	UBGS											
		-	Total N.C.												
		10 m	n ppg	10	09	50	50	50	7	9.0	٦	۵.	<i>-</i> ≠	70	15
			S O Z O	0	0	0	<u>~</u>	-	0	0	0	0	0	0	0
		-	PP	85	92	91	8	85	11	89	8	78	81	75	88
-		Per	D D D D D D D D D D D D D D D D D D D	33	25	22	25	27	5ф	27	31	37	ж	SK.	30
	1	Total dis-	solved solids in ppm					150f				146f 1458			
			Other canatituents					PO1, 0.05 As 0.01 ABS 0.0			Tot. Alk. 116 FOL 0.40	PO1, 0.00 As 0.01 ABS 0.0	PO ₁₁ 0.25	PO _{1, 0.25}	το _{ι, 0.20}
		-	Silico (SiO ₂)					81				61 61			
	6	u lio	Boron (B)	0.1	0.1	0.1	0.0	0.0	0.1	0.1	70	읭	0.1	0.0	2,00
2p)	E		Fluo- ride (F)					0.0				0.01			
X (STA.	parts per million	equivalents per million	trote (NO ₃)					0.0			0.0	0.02	0.03	0.03	0.02
D VALLE		edni	Chlo- ride (CI)	6.5	6.0	0.14	0.12	0.24	5.5	6.5	0.20	0.50	0.50	6.4	0.18
R SELA	9		Sul - fote (SO ₄)					0.52				0.31			
VER NEA	constituents		Bicor- bonote (HCO ₃)	113	102	118	1.74	102	1.57	1.88	114	1.92	120	1.87	1.88
KLAMATH RIVER NEAR SEIAD VALLEY (STA. 2D)	Mineral con		Corbon- ote (CO ₃)	0000	000	000	000	000	00	00	0.03	000	000	000	000
것	W		Potos- srum (K)					0.05				2.6			
			Sodium (Na)	19	0.52	0.52	14 0.61	0.65	11 0.48	16 0.70	17 0.74	17 0.74	17 0.74	0.70	1.7 0.74
			Magne- sium (Mg)					0.90				8.6			
			Calcium (Co)	1.70c	1.520	1.82°	1.84	0.80	1.540	1.77°c	1.64°	17 0.85	1.62	1.50	1.70
	_	_	B PH	7.5	7.5	8.0	7.7	88.1	8.1	8.8	808	7.9	8 8 0	7.h 8.1	2.7
		Specific	conductonce (micromhos) at 25°C)	242	195	223	229	230	200	540	529	225	228	219	237
				93	92	95	93	103	104	112	95	109	108	93	76
			oxyg oxyg	12.1	11.5	1.11	10.2	10.7	10.1	6.6	8.3	10.1	10.6	10.7	12.0
		,	P o E	017	24	111	52	57	63	72	73	19	8	64	84
			Dischorge Temp in cfs in PF	2,760	4,430	3,640	5,050	3,390	2,100	1,180	1,240	1,430	1,970	4,550	5,640
			and time sampled P.S.T	1/9	2/8 0910	3/8	5/7	5/16 1335	6/13	7/6	8/14 1210	9/13	10/4	11/15	21/21 250 27/21

a Freid pH.

b Labaratory pH.

c Sum of calcium and magnesium in epm.

c. Sum of calcium and magnesium in epm. d Iran (Fe), aluminum (AI), assenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Grovimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, as United States Public Health Service.

Minneral analyses and States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bemardino County Flood Cantral District (SBCFCD); Metropolitan Worter District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Water Resources (DWR), as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR), as indicated.

ANALYSES OF SURFACE WATER TABLE B-10

NORTH COASTAL REGION (NO. 1)

KLAMATH RIVER AT SOMESBAR (STA. 2)

		Analyzed by i	USGS											
		Hordness bid - Caliform Analyzed as CaCO ₃ 1ty MPN/ml by 1 by 1 opp m ppm ppm	Maximum 230.	Minimum 1.3	Median 23.									
	Ĭ	- piq - bid Madu	N	09	10	15	\$	N	0.7	a	15	00	5	180
		aCO ₃	0	0	н	0	0		0	0	0	0	0	m
		1, 1	69	64	70	95	77	96	69	78	92	29	70	††
	0	sod -	28	18	17	18	50	22	22	27	27	56	30	15
	Total	solved solids in ppm					71f				131 ^f 129¢			
		Other constituents					Pou 0.00 As 0.00 ABS 0.0				POL 0.15 As 0.00 ABS 0.0			
		(SiO ₂)					FI				50			
	illion	Boron (B)	0.1	0.1	0	0			0:1	0-1	0:0	0.1	0.0	0 0
	per million	Fluo- ride (F)					1.0				0.00			
(2 auc)	equivolants	ni- trate (NO ₃)					0.0				0.01			
(2 - WG) NEWSCHOOL IN HEALTH TIMESTY	equiv	Chlo- ride (CI)	4.8 0.14	80.0	0.07	2.5	1.8	3.0	4.1	5.0	6.4	5.2	5.9	0.03
24	č	Sul - fate (504)					9.0				13			
TO A THE	stituent	Bicar- bonate (HCO ₃)	86	62	8t 1.38	70	54 0.89	67 1.10	89	27	103	93	102	0.82
THE PARTY OF THE P	Mineral constituents	Corban- ate (CO ₃)	00:00	0000	0.00	0000	000	0.00	0.00	0.00	000	000	0000	000
	M.	Patos- Sium (K)					0.0				2.0			
		Sodium (No)	12 0.52	0.21	6.5	5.7	5.0	0.30	9.5	13	13	0.48	14 0.61	0.16
		Mogne- srum (Mg)					4.6				8.8			
		Calcium (Ca)	1.37°	286.0	1.40c	1.120	10	1.120	1.38°	1.570	0.80	1.34c	1.400	98.0
		pH B/b	7.3	7 2 3	8.0	7.8	7.5	7.2	88.1	8 8	88	7.8	8.1	7.5
	S Property	conductonce (micromhos of 25°C)	179	177	159	138	112	138	177	192	195	178	198	56
		6	8	66	102	101	103	86	76	86	102	103	73	108
		Disso	12.3	12.2	12.1	17.11	10.9	10.1	80	80.	8	10.6	7.7	12.5
		Temp in oF	177	7	91	20	55	- 28	73	70	73	28	96	84
		Discharge in cfs	5,200	16,960	8,630	13,820	10,200	5,520	1,900	1,730	1,850	4,140	4,380	59,100
		ond time sompled P.S.T.	1/10	2/8	3/8 1310	1030	5/8	6/4	7/9	8/6	9/4	10/8	11/5	12/3

b Laboratory pH

Sum of calcium and magnesium in epm.

Sum of calcium and magnessium in epin.

Iron (Fe), aluminum (A1), arong here as (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chramium (Gr⁺⁵), reported here as 0.0 except as shown.

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves.

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Surveau of Reclamation (USBR); United States Public Health Service (USPHS), Son Bernardino County Flood Control Obstrict (SBCFCD); Metropolitan Water District of Southern California (MMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DMR); as indicated. Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

NORTH COASTAL REGION (NO. 1)

MAD RIVER NEAR ARCATA (STA. 68)

	Anolyzed by I	USGS														
	bid - Coliformi Ity MPN/mi	Maximum 620.	Minimum 0.62	Median 22.												
1 1	- Pid -	7	m	80	55	0 7	CV.	O	7	C)	09	-7	100			
	N COS	9	9	4	Н	C)	9	15	-7	m	10	0	-7			
	Hordness os CoCO3 n	63	68	35	17	20	81	110	106	117	42	63	45			
0	non in	0	12	77	12	77	11	10	12	10	22	12	17			
Total	solved solids in ppm					71f		_		147°						
	Other constituents					PO _{1, 0.00} ABS 0.0				POL 0.00 AS 0.00 ABS 0.0 Tot.Alk.139						
	Silica (SiO ₂)					6.9				10				-		
lion	Boron (8)	0:0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.1	0.1			
per million	Fluo- ride (F)					0.0				0.00						
equivalents per million	Ni- trote (NO ₃)					0.00				0.00	<u>-</u>					
equivo	Chlo- ride (CI)	3.1	5.0	2.6	0.05	3.6	3.2	0.50	4.5	5.1	4.7	0.00	2.8			
ē	Sul - fota (SO ₄)					8.8				0.29						
Mineral constituents	Brcar- bonate (HCO ₃)	69	1.23	38	08.0	58 0.95	91 1.49	128	125	134	39	1.38	50			
eral con	Corbon- (CO ₃)	0000	0.00	00	000	00.00	0.00	0000	0.00	20.07	00.00	0.00	0.00			
Min	Potas- sium (K)					0.03				0.0						
	Sodium (No)	3.1	4.3	0.12	0.11	3.9	4.7 0.20	5.8	6.4	6.1	5.4	4.1	4.2 0.18			
	Mogne- srum (Mg)					3.0				6.0						
	Calcium (Co)	1.25°	1.36	0.71	0.82	15 0.75	1.62°c	2.20	2.12	37	0.83	1.20c	206.0			
	a/b	7.8	7.9	7.5	:	7.8	2.0	7.8	7.4	8.3	7.2	25	7:3			
Specific	conductance (micromhoe of 25°C)	137	150	81	25	117	177	529	228	251	66	142	66			
		78	96	101	101	66	8	%	70	95	86	98	100			
	Oxygan ppm %So	10.4	10.9	12.0	11.11	10.3	9.5	œ 	7.7	5/ m	10.1	10.4	11.3			
	Te or	£.43	50	947	52	57	61	63	63	62	58	53	50			
	Dischorge Temp	396	296	2,500	1,660	808	357	30	110	35	5,070	001	3,730			
1	ond time sompled P.S.T.	1/10	2/6	3/6	1,73	5/10	1000	7/11	8/8 0215	9/5	10/10	11/7	12/5			

b Labaratory pH.

c Sum of calcium and magnesium in epm

c. Sum of calcium and magnesium in epm. d. Iron (Rb), manganese (Mn), zinc (Zn), and hexavolent chramium (Cr^{+S}), reported here as 0.0 except as shawn. d. Iron (Fe), aluminum (Al), arsanic (As), capared bere as 0.00 except as shawn.

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardino County Flood Control District (SBCFCD); Metropoliton Water District of Southern California GwWD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Fublic Health (LADPH); City of Lubrania Department of Water Resources (DWR); as indicated

NORTH COASTAL REGION (NO. 1)

MATTOLE RIVER NEAR PETROLIA (STA 78)

_															
		Anolyzed by i	USGS												
		a bid Coliform's lfy MPN/mi	Maximum 7,000.+	Minimum 0.23	Median 13.										
		- bid - yil - bid - yil	a	35	105	50	10	н	н	-	~	95	н	350	
		SO Ng	10	7	9	4	ω	9	7	0,	10	13	Φ	0	
		Hordr Ds Co Total PPm	70	8	04	56	70	78	66	104	110	85	80	5. C.	
	P	sad -	17	18	50	17	18	16	16	16	16	19	1.7	23	
	Total	solved solids in ppm					102f				154f 1536				
		Other constituents					Po _{1, 0.10}				PO ₄ 0.05 Tot. Alk. 122				
		Since (Sio ₂)	_				ជា				75				
_	million	Boron (B)	0.0	0.0	0.1	0.0	0	0.0	0.1	0.0	0:0	0.0	0.2	0:0	
n-llior	per mi	Fluo- ride (F)					0.0				0.01				
ports per million	olents p	Ni- trote (NO ₃)				-	0.00				0.00				
١	equivalents	Chlo- ride (CI)	5.0	3.8	3.8	3.8	4.2	3.0	5.3	5.0	5.4	1.8	5.0	0.10	
	E .	Sul - fate (SO ₄)					14 0.29		_		25				
ports per	constituents	Bicar- bonate (HCO ₃)	73	67 1.10	42	1.05	76	35	112	1.90	115	88	388	51 0.84	
	Mineral cor	Carbon- ote (CO ₃)	00.00	00.00	00.0	00.00	0,00	00.00	00.00	0.00	14 0.13	0.00	0.00	00.0	
	Win	Potos- (K)					0.02				1.3				
		Sadium (Na)	5.4	6.3	4.5	5.4 0.23	7.2	7.4 0.32	8.7	9.1	9.6	6.39	7.3	0.23	
		Magne- sium (Mg)					3.6				4.7 0.39				
		Colcium (Co)	1.41	1.24c	0.80	1.12°	1.10	1.68°	1.98	2.08c	36	1.70°	1.60°	o.†8°°	
		a/b	7.6	7.7	7.7	7.8	8.0	8.5	8 2 8	880	8 8	7.5	7.8	7.8	
	Specific	conductance (micramhas at 25°C)	167	152	66	138	169	195	229	234	250	201	191	110	
		175 1	93	36	%	%	97	66	110	8	121	97	82	100	
		Dissolved oxygen ppm %S	10.7	10.7	0.11	10.6	7.6	7.6	8.	0.6	10.4	9.5	6.8	11.0	
		Te ni	64	20	64	52	99	62	71	99	₹ L	62	54	22	
		Oischarge Temp	044	638	044.7	740	742	360	125	275	69	1,000	785	005**	
		sampled sampled P.S.T.	1/8	2/6 0935	3/6	0060	5/9	6/5	7/10	8/7	9/5	10/9	11/6	12/4 0900	

b Laboratary pH.

c Sum of calcium and magnesium in epm.

Double Control of the Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USCS); United States Department of the Interior, Bureau of Reclamation (USBR), United States Department of Water and Power (LADWP); City of Los Angeles, Department of Water and Power (LADWP); City of Los Angeles, Department of Water Resources (DWR), as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR), as indicated.

NORTH COASTAL REGION (1)

NAVARRO RIVER NEAR NAVARRO (STA. 8B)

		Analyzed by 1			uses											
		Hordness bid Coliform			Median 9.6	Max. 2400.	Min. 0.23									
		- pia			1	200	45	p=d	٣	4	7	2	e	н	7	9
		200°	O E			0	0	0	0	-	0	0	0	0	0	0
			I I		103	42	45	92	103	113	107	110	112	111	118	94
	ć	tu po			20	26	25	22	21	20	21	22	20	21	19	20
	Totol	-stp solved	in ppm		150	69	72	136	152	160	191	160	1678	162	168	138°
		0,000							PO 0.10 ppm				PO4 0.10 ppm			Total Alkalinity:
	1	Silico	(SiO					-1	위				17			
	on	Boron			0.2	0:0	0.1	0:0	0:1	0.1	0.3	0.1	0.2	0.1	0.5	0,1
2	per million	Fluo-		,					0.1				0.1			
(STA. 8	equivalents per million		(NO ₃)						0.00				0.0			
AVARRO	inb•	-	$\overline{}$		9.8	6.0	5.6	6.9	0.22	8.5	9.4	10 0,28	9.0	12 0.34	9.0	0,21
NEAR	Ē	1	(80°)						0,23				9.0			
NAVAKKO KLVEK NEAK NAVAKKO (STA. 8B)	constituents	Bicor-	(HCO ₃)		2.05	52 0.83	56 0.92	11.95	$\frac{131}{2.15}$	$\frac{136}{2.23}$	140	147 2.41	$\frac{151}{2.47}$	$\frac{152}{2,49}$	154	121 1,98
NAVAKK	Mineral co	Corbon	(00)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0,03
	Ž	Potos-	ξ						1.6				1,2 0,03			
		Sodium			0.52	6.6	6.9	12 0.52	13 0.57	13 0.57	13 0.57	14 0.61	13 0.57	14 0,61	13 0,57	0.48
		Magne	(Mg)						9.8				10 0.84			
		Colcium			2.06	0.84	0.89	1.84	25	2.26	2.15	2.20c	28 1.40	2,23	2,36	1.88
		ī			7.3	7.2	7.5	7.8	7.8	7.4	7.8	7.3	6.8	7.3	7.7	7.3
	Specific	conductance (micromhos			246	113	118	223	249	262	265	263	271	266	275	227
			%Sot		87	92	88	06	108	106	124	82	105	94	92	76
	a = 1.00	Dissolved	Edd		10,3	10.2	10.0	9.5	11.0	11.0	11,3	7.6	10.4	9.1	10.0	10.8
		Temp in OF			746	52]	20	26	59	28	69	19	19	3	53	64
		Oischorge Temp in cfs in oF			78	4500	3900	163	28	94	17	15	8,5	22	20	165
		Oote ond time	P.S.T	1962	1/9 0915	2/14	3/7	4/11 1025	5/9	6/6 0715	7/9 1658	8/8 1055	9/12 0820	10/9	11/14	12/11 1045

Laboratory pH.

Sum of colcium and magnesium in epm.

Sum of colcum and incidentation in the contract of the contrac

Derived from conductivity vs TDS curves f = 0.610

Determined by addition of analyzed constituents.

Grovimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardino Country Flood Cantral District (SBCFCD); Metropoliton Water District of Sauthern California (MWD), Las Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

NORTH COASTAL REGIOW (1)

NDYD RIVER NEAR FORF BRAGG (STA. 10C)

		Anolyzed by i		USGS											
		bid - Coliform hity MPN/ml		Medfan 13	Max. 2400-	Mfn. 0.23						-			
	3	- Pid		H	1,500	55	-	en .	74	2	S	m	'n	2	v
		S O S		0	0	0	0	0	7	0	0	0	0	0	0
				85	30	31	48	53	69	59	95	09	63	09	20
-	ď	- pos		27	90	30	28	29	24	29	8	98	29	27	27
	Totol	solved solids in ppm		107	280	61 ^e	916	97 [£]	108	114	109	1068	116	117*	
		Other constituents						PO4 0,05				PO4 0.10			
		Silico (SiO ₂)						5				21			
	illion	5		[]	0.0	0.0	0.0	0,1	0.0	0.2	0.2	0.2	0.1	0.2	100
20	par m	Fluo- ride (F)						0.1				0.1			
(SIA, 10C)	equivolents per milition	rate (NOS)						0.00				0.00			
NOID RIVER NEAR FOR! BRACE (SIA. 100)	equi			0,28	6.2 0.17	0.15	7.2 0.20	6.2	0.21	0.27	0.26	7 0,31	0.27	0.21	6.2
SAR FOR	E .	Sul - fote (SO ₄)						6.0				3.2			
HIVER NE	constituents	Bicor- bonate (HCO ₃)		74	46	39	1.05	73	76	79	76	81 1,33	1.43	88 7	s E
NOXON	Mineral co	Carbon- Ote (CO ₃)		00.00	00.00	0.00	00.00	0.00	00.00	00.00	0.00	0.00	0.00	00.00	00.00
	Σ	Potas- sium (K)						0.04				1.1			
		Sodium (Na)		10	5.9	5.9	8.8 0.38	10 0.44	9.8	0.48	11 0.48	12 0.52	0.52	10	0.37
		Magne- Sium (Mg)						4.4				5.6			
		Colcium (Ca)		1,18	0.61	0.62°	36.0	14 0.70	1.38°	1.18	Lill	15 0.75	1.26	1.20°	36.0
-		H a		7.1	6.8	7.3	7.3	7.7	7.3	7.3	7.2	8.9	7.3	7.3	7.2
	Specific	(micromhos at 25°C)		156	84	68	132	147	157	166	159	169	168	170	134
				95	76	06	94	108	113	105	77	83	06	86	103
	а = 1.00	Dissolved oxygen		11.6	10.5	10.2	10.0	11.11	11.8	10.5	8.0	8,1	0.6	11.11	11.9
		Temp in of		45	51	20	55	58	57	09	57	62	09	20	49 1
		Discharge Temp		*	1,800	1250	89	38	20	10	40	2.5	51	24	125
		Date and time sompled P.S.T.	1962	1/9	2/15 0755	3/7 1345	4/11 1345	5/9 1200	6/6 1010	7/10	8/8 1415	9/12	10/9	11/14	12/11

b Labaratory pH.

c Sum of calcium and magnesium in epm.

Demonstrates and the second of the second of

e Derived from conductivity vs TDS curves. £ = 0.687

Determined by addition of analyzed constituents.

g Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardina County Flood Cantrol District (SBCFCD); Metropolitan Water District of Sauthern California (MMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

NORTH COASTAL REGION (NO. 1)

		Anolyzed by i	USGS														
		Hordness bud-Coifformh os CoCO3, ity MPN/ml															
		bid- hid- hydn		≉	50	ч	m	a	ч	2	m	200	~	2			
		S O O E	CV	0	ч	н	0	0	0	0	2	п	0	0			
		Hord Total	22	68	28	58	8	96	113	124	131	ξ†	73	58			
		Sod -	17	50	18	19	50	20	21	23	77.	18	21	19			
	1000	solved solids in ppm					118 ^f				193 ^f 1968				-		
		Other constituents					Pol, 0.10	Tot. Alk. 122		Tot. Alk. 158	Tot. Alk. 154 PO4 0.00						
		Silico (SiO ₂)					킈				킈						
	High	1 5	0.5	7.0	0	0.1	9.0	1.0	7.	1.5	3.1	0.2	0.3	4.0			
	r millian	980					0.01				0.0						
STA. 5b	ports per million						0.00				0.0						
OUTLET CREEK NEAR LONGVALE (STA. 5b)	9	Chlo- ride (CI)	8.0	7.5	1.5	0.12	0.21	8.2	15	21 0.59	0.82	6.0	8.8	4.8			
EAR LON	Ē	Sul - fore (SO ₄)					8.0				8.0						
CREEK	canstituents	Bicar- bonate (HCO ₃)	85 1.39	1.38	33	70	105	110	2.33	154	144	39	1.49	1.21			
OUTLET	Mineral can	Carban- ate (CO ₃)	0.00	00.00	0.00	0.00	0.00	0.20	00:00	20.07	5	00.00	0.00	00.00			
	Min	Potas- sium (K)					0.03				1.8						
		Sodium (NO)	6.8	0.33	2.8	6.1	9.8	11	14	177	0.83	4.3 0.19	8.7	6.4			
		Magner- sium (Mg)					0.59				14 1.12						
		Calcium (Co)	1.44°c	1.300	0.50c	1.10°C	21	1.92	2.25	2.48c	30	0.86	1.45c	1.16°			
		a Sr	7.6	7.5	7.7	7.7	8.1	8.5	88	88.3	8.3	7.0	8.1	7.2			
		conductonce (micrombos of 25°C)	175	168	70	140	200	224	279	307	333	111	183	142			
		1 5	95	76	93	98	105	112	110	83	107	93	97	76			
		Otssolved oxygen ppm %Sc	11.7	11.5	11.3	10.2	10.8	10.9	9.1	0.	9.5	9.3	10.7	10.8			
		T 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	77	94	542	57	58	63	78	19	1/2	09	52	64			
		Dischorge Temp	09	95	2,170	160	74	7	લ	£ • 4	0.8	2,260	54	145			
		and time sampled P S.T.	1/8 1245	2/5	3/5	1200	5/10 0850	6/6	7/10	8/8 1700	9/12	10/10	11/14	12/11			

Laboratory pH o Freld pH.

c. Sum of calcium and magnesium in epm

c. Sum or carcium and inappression in the print of the second of the sec

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

I Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Internat, Bureau of Reclamation (USBR); United States (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated.

NORTH COASTAL REGION (NO. 1)

Anolyzad by i USGS Tur-bid-Coliform ity MPN/mi Maximum 7,000. Minimum Medien 23. 0.45 200 57 35 4 35 ľΩ Н 20 Hordness as CoCO₃ Tatal N.C. ∞ 5 'n m <u>-</u> m 7 4 cu. 7 4 Ħ 04 38 94 48 26 30 37 55 57 28 34 56 Per-cent sod -13 16 97 17 97 15 36 82 17 17 17 28 Total dis-solved solids in ppm 55° 88f 908 constituents 0.00 00.0 Other POL POL Silica (SiO₂) 6.2 H Baran (B) 0.0 0.0 0:0 0.0 0.0 0:0 0.0 0:0 0:1 10 0:0 0:0 parts per million ride (F) 0.0 0.0 Ni-trote (NO₃) 0.00 REDWOOD CREEK AT ORICK (STA. 3b) 0.0 equivolents Chlo-200 2.8 3.4 3.5 4.2 5.5 5.4 7.2 4.0 5.4 Sul -fats (SO₂) 8.6 7.2 5 Mineral canetituents Bicor-bonate (HCO₃) 1.02 39.0 0.00 26 0.00 52 0.85 0.85 66 1.08 33 56.0 28 23 Carbon-ate (CO₃) 0.00 00.00 0.00 00.0 000 00.0 000 0.0 00 0.00 Srum (K) 9.00 4.0 Sadium (No) 2.3 2.5 3.9 5.6 0.21 4.5 3.2 3.6 5.5 3.3 Magna-sium (Mg) 1.1 0.16 Colcium (Ca) 0.80 0.76c 0.520 1.08 0.52c 0.60 1.10c 0.67 0.96 13 2001 7.7 7.5 7.5 7.2 7.5 7.5 7.5 7.2 7.5 4 4 7.0 7.0 Ĕ Spacific conductance (micromhos at 25°C) 89 91 96 75 49 112 133 131 141 82 911 19 %Sot Dissolved 8 ま 16 86 95 103 95 89 96 8 95 100 Endd 80.00 10.9 10.8 11.5 10.7 9.5 10.5 11.2 10.3 10.1 7.6 10.1 Dischorge Temp 14 64 94 53 25 62 61 19 59 56 52 51 1,110 3,840 96 890 36 2,750 050 540 200 ₹ 17 ond time sampled P.S.T. 10/01 1,79 5/10 6/6 9/7 2/6 3/6 1,/3 7/11 8/9

a Field pH.

b Laboratary pH

Sum of calcium and magnesium in epm.

Iron (Zn.), and hexavalent (Cr.), tend (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr.⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from canductivity vs TDS curves.

Determined by addition of analyzed constituents

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USCS); United States Department of the Interior, Surreau of Reclamation (USBR); United States Public Health (LADPH); City of Los Angeles, Department of Power (LADPH); City of Los Angeles, Department of Power (LADPH); City of Los Angeles, Department of Water Resources (DWR); as indicated.
Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); ar California Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

TABLE 8-10

NORTH COASTAL REGICN (1)

		Analyzed	by 1		USGS												
		Hordness bid - Coliformh	MPN/mi		Median 9.6	Max. >7000.	Min. 1.3										
		Tur- bid-	n ppm		2	1,000	180	2	00	2	20	10	9	œ	m	20	
ĺ		8 8 6	N N N N N N N N N N N N N N N N N N N		=======================================	m	4	2	2	9	m	0	0	0	7	0	
			J.		133	34	746	131	138	142	137	122	123	120	118	116	
		Per	- pos		15	18	16	17	15	13	14	14	13	15	15	15	
	1000	dis-	solids in pom		176°	67	61 ^e	174 ^e	180 ^f	181	176°	162 ^e	143 ⁸	157°	159 ^e	1536	
			Other constituents						PO4 0.35					Total Alkalinity:			
	1	-	(S:02)	 	-41			- aul	3 17	011	.+1		12		101	ml	\dashv
	no.	Der million	- Baran (B)		0.4	0.0	0,1	0.2	0.3	0.2	0.4	0,3	0.3	0.3	0.5	0	-
. 10)	r milli	je L	Fluo- ride (F)						0.0				0.01				
E (SIA	parts per million	eduivoients	NI- trote (NO ₃)			0.03			2.4				0 0				
RUSSIAN RIVEP AT GURRNEVILLE (SEA. 10)	٩	\perp	Chlo- ride (CI)		0.28	2.8	2.8	9.0	6.2	6.2	6.2	5.4	5.0	9.0	7.2	6.2 0.17	
AT G	n s		Sut - fate (SO ₄)			2.0			0,33				10 0.21				
" RIVE	stituen		Bicar- bonate (HCO ₃)	_	149	38	51 0.84	157	162	$\frac{166}{2.72}$	164	156	$\frac{153}{2.51}$	150	141 2,31	144 2.36	
RUSSIA	Mineral constituents		Corban- ots (CO ₃)		00.00	00.00	00.00	00.00	0.00	0.00	00.00	0000	0000	0.10	0000	0000	
	ž		Potes- sium (K)						1.6				0.03				
			Sodium (Na)		0.48	3.5	4.0	12 0.52	11 0.48	10	10	9.3	8.6	10	9.8	0.40	
			Mogne- sium (M9)						17				1,16				
			Colcium (Co)		2.66	0.68	0.92°	2.62°	28 1.40	2.84°	2.74°	2.44°	26	2.41	2.36	2.31	
		:	C o		7.5	7.1	7.7	8,1	8.0	7.6	0.8	8.1	7.2	7.9	7.7	7.3	
		Specific	(micromhos at 25°C)		295	82	102	292	304	305	297	272	260	265	269	258	
	- 1.00		1.5		96	91	06	88	128	118	139	97	131	109	110	87	
	8 0		% mdd		10.2	5 6	10.3	10.0	12.2	10.6	12.0	8.7	11.6	10,0	10.6	9°6	
		Tago	P C .		53	53	67	20	65	70	74	70	7.1	68	79	54	
		Dischorae	in cfs in 9F		385	51,300	30300	529	373	170	123	156	164	188	481	730	
		Date		1962	1/8	2/13 1550	3/6	4/10	5/8 1258	6/5	7/9	8/7 1350	9/11 1350	10/8	11/13	12/10	

o Field pH

b Laboratory pH.

c Sum of calcium and magnessum in epm.

d Iran (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr *5), reparted here as 0.00 except as shown. c Sum of calcium and magnesium in epm.

e Derived from conductivity vs TDS curves £ = 0.595

f Determined by addition of analyzed constituents.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Lobaratories, or United States Public Health Service (USPHS); Son Bernardino County Flood Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Branch (USGS); United States Geological Survey, Quality of Los Angeles (USPHS); Cantrol District (SBCFCD), Metrapolition Water District of Southern California Opportment of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Lobaratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated.

NORTH COASTAL REGION (1)

		Analyzed by 1		USGS													
	4	bid - Coliform'in ppm MPN/ml		Median 2.3	Max. 2400-	Mfn. 0.06										-	
	Tur-	- piq - ity in ppm		H	2800	240	7	00	e	'n	2	7	м	4	20		
		N CO		0	57	m	4	٧.	'n	4	0	0	0	0	0		
				130	43	48	134	130	133	127	114	113	112	107	116		
	Per-	tont ion		13	17	15	14	14	13	14	16	13	15	14	14		
	Toto	solved solide in ppm		165	53	62°	168e	166 [£]	166	162 ^e	150e	1518	143e	140e	149e		
		Other constituents		Total Alkalinity:				PO4 0.05				Po, 0.10 Total Alkalinity:	1				
		Silica (SiO ₂)						15				12					
	lion	Boron (B)		0.4	0.0	0.1	0.3	0.3	0,3	0.4	0.4	0.4	0.3	0.5	0.4		
million	per million	Fluo- ride (F)						0.0				0.00					
parts per million	equivolents	Ni- trote (NO ₃)						2.1 0.03				0.3					
٩	equiv	Chlo- ride (CI)		7.6	2.0 0.06	1.5	6.0	4.5	5.5	6.6	6.2	4.0	7.4	4.8	4.9		
	<u>c</u>	Sul - fate (SO ₄)						15 0.31				10 0.21					
parts per m	Constituents	Bicar- bonate (HCO ₃)		147 2,41	46	55 0.90	158	153	156	150	146	$\frac{133}{2.18}$	144	$\frac{136}{2.23}$	143		
	Minerol col	Corbon- ote (CO ₃)		0,03	0000	0.00	0000	0000	0000	0000	0000	4 0,13	0000	0000	00.00		
1	ž	Potas- sium (K)						1.2 0.03				0.8					
		Sodium (No)		9.1	4.0	4.0	9.9	9.8	0.39	9.8	9.7	8.1 0.35	0.39	8.1 0.35	8.5		
		Mogne- sium (Mg)						15 1,20				12 0.96					
		Colcium (Co)		2.60	98.0	96.0	2,68c	28 1,40	2,66	2.54c	2,28	26 1,30	2.25	2,14°	2,32°		
L		T a		7.5	7.2	7.7	80 س	7.9	8.2	8.4	8.2	6.7	7.8	8	7.5		
	Specific	conductonce (micromhos of 25°C)		279	06	105	286	281	281	276	255	243	242	237	252		
00				105	88	93	105	114	123	139	66	129	108	125	88		
	⊒ 12 13	Oissolved oxygen ppm %So		10.9	7.6	10.8	10.0	11.0	10.7	12.0	8.7	11.5	7.6	13.0	8.6		
		Ten in oF		57	52	89.7	65	64	73	74	72	11	70	57	52		
		Discharge Temp		268	39200	18600	752	284	180	151	195	200	189	440	388		
		ond time sampled P.S.T.	1962	1/8 1250	2/13 1340	3/6 1230	4/10 1245	5/8 1120	6/7	7/10 1800	8/7 1235	9/11 1205	10/8	11/15	12/10 1055		

b Loborotory pH.

Sum of colcium and magnesium in epm.

Sum of calcium and magnesium in epin.

You (F., aluminum (Al), arrance (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reparted here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves f = 0.590 Determined by addition of analyzed constituents.

Grovimetric determination.

h Annual medion and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Canneral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Bepartment of Water and Power (LADWP), City of Los Angeles, Department of Southern California (WWD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE P-10

NORTH COASTAL REGION (1)

BA)
(STA.
HOPLAND
NEAR
RIVER
RUSSIAN

			Anolyzed by 1		nses											
			bid - Coliform" ily MPN/mi		Median 50	Max. 2400.	Min. 0.23									
		Tur	- piq - pid - bid - bid		6	115	90	40	9	4	П	2	7	7	15	25
			N.C. PP.C.		2	m	4	p=4	0	0	0	0	0	o	0	0
			Hardness as CaCOs Total N.C. PPm PPm		80	37	59	65	91	92	74	80	80	81	77	7.1
		Par-	- pos - pos - mni	_	18	20	16	17	19	19	16	17	14	19	16	18
		Total	solved solids in ppm		120°	55	80	906	126 ^f	116	101	104	1048	112 ^e	104	97*
			Other constituents						PO4 0.35				PO4 0.10			
		-	(SiO ₂)						21				9.3			
	٥	Illion	Boron (B)		0.4	0.0	0.2	0:0	0.3	0.2	0.3	0.3	0.2	0.3	9:0	0,3
	e lie	per million	Fluo- ride (F)						0.1				0.00			
RUSSIAN RIVER NEAR HOPLAND (STA. BA)	= 1	equivalents	Ni- trote (NO ₃)						3.2				$\frac{1.1}{0.02}$			
PLAND (equi			6.5	4.0 0.11	3.8	6.0	5.0	4.5	3.8	5.8	3.0	6.9	4.0 0.11	3.6
VEAR HO		- 1	Sul - fote (SO ₄)						8.0				8.0			
RIVER	et centification		Bicor- bonate (HCO ₃)		105	42	1,10	78	1111	101	90 T.48	98 1.61	98 1.61	103	$\frac{102}{1.67}$	1.48
RUSSIAN	Mineral	- 1	Carbon- ots (CO ₃)		0000	00.00	00.00	00.00	00.00	00.00	0.00	00.00	0.00	00.00	0.00	0000
	ž		Potas sium (K)						0.03				0.7			
			Sodium (No)		8.7	4.4	5.4	5.9	9.6	9.7	6.6	7.7	6.3	0.39	6.7	7.2 0.31
			Magne- sum (Mg)						9.4				7.3			
			Calcium (Co)		1.76°	0.74°	1,18°	1.30	21 1.05	1.84	1.48	1.60	20	1.62	1.54	1.42°
			F B		7.2	6.8	7.3	7.4	7.9	7.5	7.6	7.4	7.2	7.5	7.4	7.3
		Specific	conductonce (micromhos of 25°C)		203	93	135	153	217	197	171	177	177	190	177	164
Ì	0,98				66	91	06	8.9	122	114	120	78	104	102	97	06
	а = 0,		Dissalved axygen ppm %Sa		10.9	9.7	10.3	6,0	12.0	10.4	10.8	7.9	8.6	9.4	10.0	8 6
		1	To a		52	53	84	55	09	67	89	58	79	99	95	52
			Oischarge Temp in cfs in ^a F		180	07879	4260	685	133	135	155	239	209	236	345	006
			and time sampled P.S.T	1962	1/9	2/15 1310	3/8 1130	4/11	5/10 1203	6/7	7/10	8/9 1020	9/13	10/10 1335	11/15	12/12 1030

b Laboratory pH.

Sum of colcium and magnesium in epm.

sum or corcum any inspiration in the sum of the sum of

Derived from conductivity vs TDS curves. # = 0.590

Determined by addition af analyzed constituents.

Grovimetric determination.

Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laborotories, or United States Public Health Service (USPHS); Son Benardino County Flood Cantrol District (SBCFCD); Mined States Department of Water Department of the Interior, Bureau of Reciamation (USBR); United States Department of Water Department of Water and Power (LADWP); City of Los Angeles, Department of Survice (SBCFCD); Metropoliton Water District of Southern Colifornia (WMD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Mater Resources (DWR); as indicated.

Public Health (LBDPH); Terminol Testing Laborotories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

NORTH COASTAL REGION (1)

,																		
		Analyzed by 1				USGS	_											
		Did - Colitarmh				Median 23	Max. 620.	Mfn. 0.23										
		- a - c	2			15	70	95	20	9	4	٧	50	7	20	45	35	
		Hardness b	Zã			٧	9	7	-	0	v .	0	0	0	0	0	0	
						99	57	87	54	65	29	61	09	67	70	2	99	
		Cant Sad -	5			15	12	13	15	16	17	15	14	13	16	17	16	
	2,61	Solved Solved	mdd ui			92 ^e	716	42	73	92 [£]	86	82	83	1058	97	06	87°	
			Orner constituents							PO ₄ 0.05				PO ₄ 0,15				
		Sirco	(SiO ₂)							21				15				
10A)		5	ê			0.4	0.1	0.1	0.0	0.4	1.1	0.2	0,2	0.0	0,3	90	0.4	
(STA	million	F 1 uo-	(F)							0.1				0.0				
ERHOUSE	ō	1	(NO ₃)							00.0				0.2				
RUSSIAN RIVER, EAST FORK AT POTIER VALLEY POWERHOUSE (STA. 10A)	parts p	?	(C G			4.5	2.5	2.2	1.6	2.2	2.0	2.0	2.0	2.5	5.4	3.5	2.8	
TIER VA	č	Sul -	(\$04)							8.0				8.0				
K AT PO	canetituents	Bicor	(HCO _S)			1,26	1.02	56 0.92	65 T.07	79	76	74	78	1.36	87	82	1.31	
EAST FOR	Mineral can	Carban	(CO _S)			0000	0000	0000	00.00	0000	0000	0.00	0000	000	0000	0000	00.00	
RIVER,	M	Patas	E(X)		_					0.9				0.0 0.0I				
TOSSTAN		Sodium	(S 0)			0.23	3.5	3.2	4.3 0.19	5.9	6,4	0.21	0.20	0.21	6.2	6.0	5.5	
		-ango	(Mg)							5.5				5.4				
		Calcium	(Co)	,		1,35	1.13	96.0	1.08	17	1,34°	1.21	1.20	18	1.40	1,28	1.27	
		ĭ	a			7.3	7.1	7.5	7.9	8,1	7.7	0.8	7.8	7.0	7.5	7.6	7.2	
		conductance (micramhas	0 - C 7 - LD			154	118	107	122	151	143	137	139	149	191	150	145	
ŀ			%Sot			97	86	°°°	92	109	104	106	83	101	06	97	06	
	a = 0.97	Dissolved	ppm o			11.2	11.4	10.5	9,1	11.1	10.0	8.6	5.5	e e	4.8	10,1	10.4	
		Ter				94	94	4	58	26	61	2	56	75	63	75	746	
		Discharge				312	298	302	310	107	147	201	222	222	338	309	302	
			P S.T.		1962	1/9	2/15 1130	3/7	4/11 1625	5/10 1025	6/7 0812	7/10 1520	8/9	9/13 0914	10/10 1155	11/15	12/12 0905	

b Labarotory pH.

c Sum of calcium and magnesium in epm.

 $c_{\rm c}$ sum at curcum and unappression in equilibrium (CL), and provided from the control of Derived from conductivity vs TDS curves £ = 0,600

Determined by addition of analyzed constituents.

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by Colifornia Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality at Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health (LADPH); San Bernardino Country Fload Cantrol District (SBCFCD); Metropoliton Water District of Southern California (MWD); Las Angeles Department of Water and Pawer (LADWP); City of Las Angeles, Department of Southern California Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Termina Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

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NORTH COASTAL REGION (NO. 1)

		Anotyzed by i		USGS													
		Tur- bid- Coliformh ily MPN/mi		Maxinum 230.	Minimum 0.23	Median 2.3										 	
		- Pid - Pid		~	7	5	~	m	O.	0.5		0.0	m	Н			
		\$00 000	D B C	O.	Н	е.	0	0	H	0	0	CV .	0	0	0		
		Hordr os Co	Total	17	24	65	36	25	28	35	52	288	917	6	a m		
		Par-		Φ	7\	10	9/	6	10	10	13	7	10	10	12		
	i	solved solids	E DD					37 [£]				82f 81£					
		Other constituents						PO _{1, 0.00}				Po _{t, 0.05}					
		Silico	1201c					9.4 POu	_			77					
	اء	5	ío)	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.1	0.0	0.0	0.1		
	E	Fluo- Bor						0.0				0.0					
TA . 2a)	انة	hio- Ni-	(NO 3)					0.00				0.03					
SBAR (8	٠	Chio-	(CI)	0.05	0.03	0.03	0.03	0.5	0.0	0.03	3.8	2.5 0.07	2.2	0.00	0.03		
AT SOME	<u> </u>	Sul -						0.08				3 B					
SALMON RIVER AT SOMESBAR (STA. 28)	constituents	Bicor- bonote	(HCO3)	71.0 0.77	50	1.11	44 0.72	31	33	48	11:11	1:11	57 0.93	66 1.08	42		
SALMON	Minsrol con	Carbon-	(co)	0000	0.00	00.00	000	0.00	00.00	00.00	00.00	00.00	00.00	00.00	000		
	M	Potos	3					0.0				0.0					
		Sodium		1.5 0.07	0.08	2.9	1.5 0.07	0.05	1 to 000	0.09	3.4	3.5	2.4	2.5	0.09		
		Mogne-	(S N)					0.11				3.3					
		Colcium		0.82	0.840	1.186	0.72°	0.39	0.56°	0.78c	1.040	1.8 0.90	0.920	<u>286.0</u>	269.0		
		Ŧ	a/b	7.8	7.5	8.0	7-7	7.2	7.7	7.9	000	7.1	7.7	8.0	7.		
	;	conductonce (micromhos		87	88	122	8	26	99	87	777	130	100	111	76		
-			%Sot	%	%	98	100	66	8	93	98	108	107	76	108	 	
		0 🖺	Edd	12.5	11.8	11.9	11.6	1.11	10,5	80 12.	8,5	-1 -0 -1	11.2	10.5	12.4		
		Ten in oF		07	77	45	84	51	53	69	89	73	26	54	5		
		Dischorge Temp		1,010	3,200	1,790	3,700	3,240	1,770	379	267	180	681	544	14,400		
			1962	1/10	2/8	3/8	1000	5/8	1530	1/9	8/6	9/4	10/8	11/5	12/3		

b Laboratory pH. o Field pH.

c Sum of calcium and magnesium in epm.

c sum of control and analysis in the second (Pb), manganese (Mn), xinc (Zn), and hexovalent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0}$ except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior. Bureau of Reclamation (USBR); United States Department of Water and Power (LADWP), City of Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

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NORTH COASTAL REGION (NO. 1)

Anolyzed by I USGS Caliform MPN/ml Maximum 620. Minimum 0.23 Median 9.6 Tur-bid-(1y n ppm 0 9 CJ **_** 15 20 CU CU $\alpha \gamma$ 15 15 25 Hordness oe CoCO₃ D E G 3 0 5 CЛ ന 0 0 0 0 0 CJ Total 28 49 6 72 69 67 124 136 135 57 82 Sod -0 9 00 ∞ 00 ∞ -_ Total dis-solved solids in ppm 164f 1478 90f Other constituents 179 153 171 170 PO₄ 0.00 Tot. Alk. Tot. Alk. Tot. Alk. Tot. Alk. 0.00 POT Silico (SiO₂) 17 81 Boron (B) ं 0.0 0.0 0.0 0.0 0.1 0.0 0:1 0.0 0.0 0 0:0 per million parts per millian 0 0 0.1 Fluo-ride (F) 0.0 2.6 equivalents troje (NO.) (STA. 3.6 Chlo-ride (CI) SCOTT RIVER NEAR FORT JONES 5.2 0.04 2.5 6.6 0.11 Sul -fote (SO₂) 2.0 0.00 5 constituents Bicor-bonofe (HCO₃) 21.49 110 1.33 2.36 2.70 164 161 Carban-ate (CO₃) Mineral Potos-Sium (K) 0.02 0.0 Sadium (Na) 2.7 2.4 5.5 3.2 2.0 2.7 0.12 5.0 5.4 5.3 2.1 2.5 1.15 4.6 Calcium (Ca) 1.14° 20 31 7.3 10 W 7.5 8 7.5 0.0 88 88 000 00 00 W. 17. 1000 H Specific conductonce (micromhos of 25°C) 131 192 138 276 122 197 %Sat Dissalved 06 8 87 ま 8 88 9.3 10.3 10.7 10,8 Temp in OF 41 75 147 29 92 19 87 71 73 62 Discharge 1 328 459 1,000 969 100 06 25 Date and time sampled P S.T. 6/12 8/14 4/4

Loboratory pH. Field pH

c Sum of calcium and magnesium in epm.

Januar Carston and Carston of the second (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{6.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Lobarataries, ar United States Public Reclih Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Bearing County Flood Control District (SBCFCD); Metropolition Water District of Southern California (WMD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

ANALYSES OF SURFACE WATER NORTH COASTAL REGION (NO. 1)

SHASTA RIVER NEAR YFEKA (STA. 18)

Г		10												
		Anolyzed by i	usas											
	,	bid - Coliform	Maximum 620.	Minimum 0.62	Median 22.									
	Tur	- Pid - Add c	10	е	10	10	9	2	m	7	00	9	ľ	10
		N COS	0	0	0	0	0	0	0	0	0	0	0	0
			207	178	204	021	227	241	256	250	546	202	199	225
	0	For Full	30	33	27	58	30	31	31	33	31	22	32	56
	Total	solids in ppm					369£		-		417£			
		Other constituents		Tot. Alk. 282	Tot. Alk. 285	Tot. Alk. 248	PO _{1, 0.40} Tot. Alk. 335	Tot. Alk. 360	Tot. Alk. 373	Tot. Alk. 387	PO1, 0.45	Tot. Alk. 318	Tot. Alk. 316	Tot. Alk. 332
		(20:5) 00:11:5					84				22			
	million	Boron (B)	7.0	0:0	7.0	0.3	0.6	6:0	9.6	T.0	9.6	0.5	0.3	9:0
acillion.	per mi	0.50					0.0				0.0			
ports per million	lante						0.00				0.03			
50	equivolente	Chio-	26 0.73	21 0.59	18	17	26 0.73	0.71	32	34	34	24	24 0.68	0.62
STATE THE THE THE PARTY TO THE TO	Ē	Sul - fote (SO ₄)					0.23	··			7.2			
MAYES I	fifuents	Bicor- bonote (HCO ₃)	296 4.85	27th 1.19	273 4.47	3.67	78. h	346 5.67	364	361	378	1.85	262 4.79	4.92
ATGANGG	Mineral constituents	Carbon-	00.00	μ 0.13	0.20	12 0.40	79 0.63	0.23	5.17	13	0.00	0.37	12 0.40	0.53
	Mine	Potos- C					2.7				4.4			
		Sodium (Na)	100	41 1.78	35	30	946	2.13	52.26	2.44	52.20	1.91	1.91	1.57
		Mogns- sium (Mg)					33				3.08			
		Calcium (Ca)	4-13c	3.56c	1.08	3.400	36	1.82c	5.13°	5.01°	38	1. Oto	3.980	4.50c
Ī		pH a/b	8.1	8.1	8.3	88.0	88.3	00 00 01 00	3 8 8	3.5	8.1	8 8 9	8.5	8 8
	or grown	conductonce (micromhos at 25°C)	514	1,98	489	121	546	509	637	633	641	525	523	541
-			36	88	16	100	96	93	46	11	89	16	92	<i>§</i>
		Dissolved oxygen ppm %So	11.3	10.7	10.7	10.4	9.1	9.3	9.1	9.9	1.9	9.6	4.6	6.
		Temp in of	†††	57	Ĺή	57	69	09	63	19	19	55	14.3	£ 41
		Orschorge Temp	205	360	330	500	173	09	£ †	69	19	154	195	300
		Dote ond time sompled P.S.T.	1/9	2/7	3/7	1100	5/16 1555	6/13 0750	0830	8/1 ⁴ 0830	9/13 0715	10/4	11/15	12/12 0815

o Field pH

b Labaratory pH

c. Sum of colcium and magnesium in epm.

c. Sum of colcium and magnesium in Spin.

d Iran (Fe), aluminum (A1), areanic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reparted here as 0.0 except as shown. e Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of Mater and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

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ANALYSES OF SURFACE WATER TABLE B-10

NORTH COASTAL REGION (NO. 1)

Anglyzed by 1 USGS Coliformh MPN/ml Maximum 230. Minimum 0.046 Median 2,2 0.9 1.5 Н 2 cu Q *_* CU Н 33 ~ 5 Hardness as CaCO₃ Tatal N.C. 0 0 ٦ m \neg 0 Н 3 Q CΙ. 4 CV 74 94 9 38 40 84 69 55 68 38 37 25 Per-cent sod -6 9 ω ω 0 6 ω 70 검 덖 Total dis-salved solids in ppm 54£ 85f 838 Other constituents 0.0 0.25 8 201 Silico (SiO₂) 71 ᆌ Boron (B) ं ं 0:0 ं 000 0:0 0:0 0: 0:0 0.0 0:0 김 equivalents per million ports per million 0.0 0.0 Flug-ride (F) 38) trote (NO4) 0.00 0.00 SMITH RIVER NEAR CRESCENT CITY (STA. - PEG 4.2 20.0 1.6 0.08 4.2 1.5 3.1 7 Sul -fate (SO₄) 0.00 3.2 Ξ Mineral constituents Bicar-banate (HCO₃) 44 47 60 1.16 44 53 1.05 80 1.11 00.0 000 0.00 0.00 0.00 000 0.00 0.00 000 00.00 Potas-sium (K) 0.3 0.00 Sodium (No) 3.7 2.3 0.07 0.08 3.4 2.6 0.07 0.05 4.0 1.7 6.1 0.98 Calcium (Ca) 1.19° 1.080 0.74c 0.96 0.75° 0.91 0 70 6.3 7.5 70. 500 7.7 91.8 7.0.8 Specific conductance (micromhos at 25°C) 100 7.9 12 kg 7.9 0.8 7:7 8 80 95 62 4 48 103 123 137 7 Ţ 7 %Sot Dissolved 93 707 103 102 8 85 100 109 104 104 177 12.3 mdd 1:1 9.11 12.3 11.6 17.7 10.2 9.3 8.3 7.6 12.3 11.3 Temp in OF 20 94 84 14 53 62 69 62 67 75 20 Discharge T 8,960 4,230 2,740 25,800 1,830 850 295 860 ond time sampled P.S.T. 5/9 8/9 1/9 2/6 1415 3/6

o Field pH

Lobaratory pH.

Sum of calcium and magnesium in epm.

Junt at Cartesin and magnession (Sp.), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reparted here as $\frac{0.0}{0.00}$ except as shown. Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water District (SBCFCD); Metropolition Water District of Sauthern California (WWD); Las Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Male (LADPH); City of Lang Baach, Department of Pater Resources (DWR); as indicated. Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

07-0 335C.

NORTH COASTAL REGION (NO. 1)

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		Anolyz by i		USG													
		Hordness bid- Coliformh os CoCOs ity MPN/mi															
		Pid Pid Pid Pid Pid		ч	50	15	-3	ч	m	н	5	70	9	٦	N	 	
		20005	mdd	9	α	7	٦	m	m	m	m	m	н	-3	m	 	
		Hor	wdd	58	53	7-1	52	94	7.7	55	04	72	24	70	62	 	
-		T POOL	_	0,	10	Φ	∞	#	10	12	13	13	12	7	10	 	
	Totol	golved solids in ppm						61 ^f				93f 918					
		Other constituents						PO _{1, 0.00}				PO4 0.00		Tot. Alk. 81			
		Silica (SiO ₂)	_					킈				킈				 	
	no lilion	Boron (B)		0:0	0:0	0.0	이	0:	0.1	ं	0.1	0:0	0	ं।	0:0	 	
(qn	per million	Fluo-						0.00				0.0					
(STA.	ports per million	-inde	1403					0.00				0.00				 	
T RANCH	vine	Chlo-		5.2	2.6	0.04	2.2	2.2	2.5	4.5	0.14	7.2	3.5	6.0	0.0		
AR BUR	<u>e</u>	Sul - fore	1					3.0				0.10					
SIVER NE	constituents	Bicor- bonote	(4003)	1.05	1.02	82	1.02	53	50	1.03	45.0	1.36	50 0.82	1.29	72		
TRINITY RIVER NEAR BURNT RANCH (STA. 40)	Mineral cor	Corbon	1003	0000	00.0	0000	0000	000	0000	0.00	000	000	00.0	0.03	0000		
E	Min	Potos-	(v)					0.3				0.0					
		Sodium (No)		0.11	2.8	3.0	0.0	2.5	0.10	3.5	2.8	0.25	2.6	4.0	3.2		
		Mogne- Sium	(five)					3.3				7.8					
		Colcium (Co)		1.16	1.000	1.480	1.040	13	0.88	1.09	0.81	0.80	0.846	1.40	1.24°		
			a/ D	7.3	7.3	8.0	7.5	7.6	7.7	7.8	7.5	88	7-4	7.6	7.7		
		conductance (micromhos of 25°C)		124	115	151	109	66	e.	119	91	156	ŧ	152	132		
			70507	97	8.	96	97	97	8	104	95	66	86	97	15		
		0 5 7	Edd	12.4	11.4	11.3	10.6	10.5	2,00	9.6.	8	80.	10.7	10.3	11.3		
		Te or		T 77	199	24	53	54	58	89	779	11	53	55	- 1		
		Dischorge Temp		805	7,020	2,770	2,660	1,500	1,020	7.80	820	273	5,560	540	2,280		
		ond time sompled	1962	1/10	2/8	3/8	4/5 1325	5/10	1100	7/12	8/10	9/8	10/12	11/5	12/6		

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b Laboratory pH

c Sum of calcium and magnesium in epm.

c. Sum of calcium and magnessium in epim.
d. Iron (Fe), aluminum (AI), arsence (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*6), reported here as 0.00 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Lobaratories, or United States Public Health Service (USPHS); Son Bernardino Country Flood Mineral landy States Subsection States Cological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Branch (USGPHS); Son Bernardino Country Flood Conney District (SEMECD), Metropoliton Water California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TIL), or California Department of Water Resources (DWR); as indicated.

NORTH COASTAL REGION (NO. 1)

		P	1												
		Anolyzed by i	USGS												
		Hordness bid Colliform os CoCO3 119 MPN/mi	Maximum 1,300.	Minimum 0.2	Median 2.3										
		1 2 dd C	C/J	70	50	15	3,5	m	0.0	-	Q.	m	ч	091	
		2000 N	00	٦	9	.7	m	0	m	7	_	1/	C/J	4	
		Hord Os Co	73	09	75	62	26	77	70	83	92	82	78	N N	
	å	Nod -	-	10			0	10	7	11	7	70	7	22	
	Toto	solved solids in ppm					73 ^f				117f				
		Other constituents					PO _{1,} 0.00 As 0.00 ABS 0.0				PO1, 0.05 As 0.00 ABS 0.0				
		Silico (SiO ₂)					12		 -		গ্ল				
	lign	Boron (B)	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	
	per millian	Fiuo- ride (F)					000		_		000				
A. 4)		trote (NO ₃)		·			0.00				0.0				
TRINITY RIVER NEAR HOOPA (STA. 4)	parts pe	Chlo- ride (CI)	1.8	3.0	1.8	1.4	2.4	1.5	3.7	7.4	6.0	5.0	4.8	0.05	
NEAR HO	Ē	Sul - fote (SO ₄)					0.10				9.2				
RIVER	stituents	Bicor- bonote (HCO ₃)	1.29	72	84	1.16	65	5 ⁴ 0.89	82 1.34	96	1.70	1.54	100	1.02	
TRINIT	Mineral constituents	Corbon- ote (CO ₃)	000	00.00	0000	0.00	00.00	0,00	0.00	00.0	0000	00.00	00.00	00.0	
	Mine	Potos- Sium (K)					0.0				0.5				
		Sodium (No)	2.6	2.9	0.11	0.00	0.11	2.3	3.8	0.20	5.0	61.0	0.21	3.2	
		Mogne- Sium (Mg)					5.1				9.0				
		Colcium (Co)	1.45c	1.20€	1.50°	1.24°	0.70	0.88°	1.41°	1.65	1.10	1.64°	1.68c	1.04°	
		рн в/ъ	7.9	7.5	7.7	7.8	7.5	7.7	8.0	88.0	000	7.8	8 2	7.5	
	Specific	conductonce (micromhos of 25°C)	150	126	152	127	911	98	150	177	190	175	179	8	
			87	86	8	66	76	8	101	75	86	101	102	105	
		Osygen ppm %So	10.9	11.8	11.3	10.8	10.0	6.6	0.6	8.3	9.8	10.4	9.01	11.9	
		T. 0. 0.	42	745	14	53	28	09	7	72	73	28	57	20	
		Dischorge Temp	1,930	14,100	8,810	8,180	3,740	2,020	885	522	094	850	1,280	32,600	
		somption somption	1/10	2/8 1325	3/8	4/5	5/8	6/4	1/9	8/6	9/4	10/8	11/5	12/3	

Field pH

b Loborotory pH.

c Sum of colcium and magnesium in epm.

Iron (2n), ordered with St. capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chromium (Cr⁺⁵), reparted here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents. Grovimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureou of Reclamation (USBR); United States Department of Water and Power (LADWP); City of Las Angeles, Department of Subhern California (WMD); Las Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Subhern California Department of Water Resources (DWR); as indicated.

Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by Colifornia Department of Public Health, Division of Laboratories, or United States Public Health Service.

NORTH COASTAL REGION (NO. 1)

TRINITY RIVER AT LEWISTON (STA. 48)

-																
		Anolyzed by 1	USGS													
		bid-Colform a rity MPN/mil	Maximum 230.	Minimum 0.045-	Median 13.											
	1	- piq u	cu	20	10	-	3.5	m	H	7	6	C)	-	70		
		SO Ng	Н	9	9	m	0	α	0	٦	0	0	0	m		
		Hordr Os Co Total	51	52	50	52	917	59	1,5	917	45	1/1/	719	51		
	0	sod -	89	12	11	10	10	0,	12	12	1	10	10	16		
	Total	solved solids in ppm					64.f				63 ^f 62 ^g					
		Other constituents					Po _{t, 0.00}				PO4 0.00					
		Silico (SiO ₂)					파				17					
	lion	Boron (B)	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1		
aoillia	per million	Fluo- ride (F)					0.0				0.01	•				
١.	5						0.0				0.00					
INIMII ALVEN AI LEWISION (SIA. 48)	equivolents	Chio- ride (Ci)	3.0	0.00	1.5	0.00	2.4 0.07	2.0	1.8	3.2	2.8	0.0	2.4	0.00		
NT HOW TO	⊆ .	Sul - fore (SO ₄)					3.2				0.02					
RLVER	constituents	Bicor- bonote (HCO ₃)	61	56.0	54 0.89	96.0	56.0	70	0.90	0.90	56.0	58 0.95	56.0	58		
TUTATUT	Mineral con	Corbon- ote (CO ₃)	0.00	0.00	00.00	00.00	00.00	00.00	00.00	00.00	00.00	00.00	00.00	00.0		
	Min	Potos- sium (K)					0.0				0.0					
		Sodium (No)	2.1	3.2	0.12	2.5	2.6	2.6	2.7	2.9	2.7	2.4	2.3	9.4		
		Magne- sium (Mg)					6.7				0.59					
		Colcium (Ca)	1.02°	1.040	1.00	1.04°	7.4	1.18c	268.0	0.91	6.7	0.88c	0.920	1.02°		
		в /ъ	7.7	7.8	7.8	8.0	8.0	8.0	8.0	88.0	7.9	7.5	7.6	7.5		
	Specific	(micromhos ot 25°C)	108	111	110	104	101	126	%	66	76	76	66	117		
		10	88	95	8	100	95	98	97	93	102	100	96	92		
		Dissolved oxygen ppm %Sc	10.6	11.1	10.9	10.5	10.7	10.0	9.6	9.3	10.4	11.3	11.0	11.0		
		Temp in of	54	45	14	96	99	65	61	09	65	90	84	94		
		Discharge Temp	185	397	310	188	180	170	190	195	198	203	225	541		
		bote and time sampled P.S.T.	1/10	2/8	3/8	1,450	5/10	6/7	7/12	8/10	9/8	10/8	11/5	12/3		

b Laboratory pH

c Sum of colcium and magnesium in epm.

c. Sum at cotetum and magnessum in epin.

d. Iron (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reparted here as $\frac{0.0}{0.00}$ except as shawn.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

g Gravimetric determination.

in Mineral analyses made by United States Geological Survey, Dvality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

NORTH COASTAL REGION (NO. 1)

		Analyzed by i	UBGS														
		os Coco ₃ liy MPN/ml os Coco ₃ liy MPN/ml forol N.C.	Maximum 620.	Minimum 0.06	Median 5.6												
		- Pia - Pia	N	7	300	15	m	CU	ч	20	2	350	н	50			1
		S COS	Φ	9	∞	6	5	7	m	13	N	2	-1	0			
		ı.	477	89	41	52	69	22	93	103	108	24	96	14			
	ć	cent cod ium	6	11	17	6	13	10	13	77	13	12	7	15			1
	Totol	dis- solved solids in ppm					87 ^f				141^{f}						1
		Other constituents					PO4 0.00	Tot. Alk. 86	Tot. Alk. 110		PO _{1, 0, 11,0}		Tot. Alk. 108				
		Silico (SiO ₂)					9.8				9.9						
	Hion	5	0.0	0.2	0.0	0.0	0	0.1	0.1	0.1	0.0	0.0	0.0	0.1			
5a)	per million	Fluo- rids (F)					0.01				0.01						
VAN DUZEN RIVER NEAR BRIDGEVILLE (STA. 5a)	equivolents	Ni- trote (NO ₃)					0.00				70.0						
DOEVIL	equi	Chio- ride (CI)	2.5	0.08	0.03	1.6	0.05	0.00	3.6	1.8 0.14	4.8	0.00	4.6	0.0			
NEAR BRO	E .	Sul - fots (SO ₄)					0.23				0.31						
RIVER 1	constituents	Bicor- bonate (HCO ₃)	80	76	0.66	53	13	82 1.34	107	1.80	2.11	51.0	100	58 0.95			
N DUZEN	Mineral co	Carbon- ote (CO ₃)	0000	0.00	00.00	000	0.00	0.07	0.03	00.0	0.00	00.00	0.13	0.00			
VA	Min	Potos- sium (K)					0.0				0.0						
	ļ	Sodium (No)	3.2	3.8	3.9	0.10	0.50	3.9	6.1	0.33	0.33	0.13	5.2	4.0			
		Mogns- sium (Mg)					0.40				7.4						
		Calcium (Co)	1.480	1.36c	0.82	1.04°	18	1.50c	1.86°	2.06°	31	2,6.0	1.80°	276.0			
		1 0 N	7.3	3.5	7.6	7.8	8.1	8.1	88	8 0 0	80 80	7.5	7.4	7.7			
	Specific	conductance (micromhos at 25°C)	159	146	87	101	139	163	203	230	239	104	197	106	-		
			%	86	86	%	75	100	100	ਡੈ	105	101	100	104			
		Dissolved osygen ppm %So	ь. 1	11.7	11.9	10.8	9.6	6.6	8.6	8.0	g,	10.7	10.9	8.11			
		Temp in of	777	911	45	51	59	19	75	69	19	55	53	50			
		Discharge Temp in cfs in 9F	158	502	5,300	928	238	084	53	105	검	2,400	126	2,730			
		ond time sompled P.S.T.	1/9	2/5	3/5	4/2 1650	5/8	6/5	7/10 1725	1320	9/6	10/10	11/7	12/4			

o Field pH

b Loborotory pH

from Feb. Journal (Cr. ⁺6), respect (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr. ⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown. c Sum of colcium and magnesium in epm.

Derived fram conductivity vs TDS curves

Determined by addition of analyzed constituents.

Grovimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardina County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (WMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Many Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Loboratories, Inc. (TTL); or Colifornia Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

TABLE 8-11

SAN FRANCISCO BAY REGION (2)

ALAMEDA CREEK NEAR NILES (STA. 23)

		Anolyzed by 1			uscs												
		bid - Coliformh ify MPN/ml			Medien 9.6	Max. 2400.	M1a. 0.62								-		
	ŀ	- pid - pid - pid - pid			4	m	60	9	en	2	15	45	20	96	25	2	
		8880 8008 N	₩ M M		352	201	84	100	67	99	*	19	6	32	52	99	
			e dd		628	470	214	320	264	240	180	178	142	152	210	273	
-	- 6	2 0 E			27	- 28	54	29	22	27	3	37	3	20	94	42	
	Totol	solids solids in ppm			897	714	3306	517	385 [£]	364	385	325 ^e	2978	355	485	555	
		of Other constituents							12				PO4 0.55				
	1.	on Silica (SiO ₂)	+		10	10	mi		9.2	101		mi	15	101	at I	ঝা	<u> </u>
	per million	o- Boron			1.0	1,0	0,3	0.7	2 0.6	0.5	0.4	0,3	4-0	0.5	4-0	0.4	
LES (SIA. 73)	D	Fluor							0.3				0.01				
(S) CH	aquivalents	Ni- trafe							5.1				0.5				
AK NIL	viole	Chlo- ride			2.60	91 2.57	32	68	36 1.02	31 0.87	80	52 1,47	58	87	3.27	3.22	
ALAMEDA OREEA NEAR NILES (SIA. 73)	u si	Sul - fots			· ·				91 1.89				33				
LAMEDA	constituents	Bicar - banate			336 5.51	328 5,38	$\frac{202}{3.31}$	268	3.93	3.69	$\frac{178}{2,92}$	3,18	162	146 2,39	193 3.16	253	
*	Mineral can	Carban- ate (CO.)			00.00	0000	00.00	00.00	00.00	0000	00.00	0000	00.00	00.0	00.0	00.00	
	M	Patas-							0.07				2.5				
		Sadium (Na)			109	3.74	31	60 2.61	35	1.74	64 2.78	49	52 2.26	3.00	3.65	3.92	
		Magne- sium (Ma)							2,39				16				
		Calcium N			12,55°	07.6	4.28°	6.41°	58 2.89	08°7	3.60	3.56	31	3.04	4.20°	5.45	
		H _d	1		8.2	e, e	8.0	8,3	8,3	8.0	8.2	8.1	8.2	7.9	8.0	8.0	
	Specific	conductance (micramhas at 25°C)			1,470	1,470	541	851	652	599	635	535	967	585	797	910	
		1 *			86	107	96	117	129	901	136	112	110	108	104	97	
	a = 1	Dissolved oxygen			10.8	11.2	10.5	10.9	12.2	10.5	12.5	9.8	6.6	8.6	10.7	11.2	
		F. i.			52]	56]	51 1	99	65]	61	68	73	70	69	58 1	20]	
		Oischarge Temp			0.1	1.5	45	0.4	9.2	7.0	15	14	3.7	39	4.5	2,1	
		and time sompled		1962	1/10	2/7	3/15 1035	4/6	5/4	6/14 0814	11/2	8/9	9/6	10/1 1340	11/7	12/5	

b Labaratory pH.

c Sum of calcium and magnesium in epm.

Iron (Fe), aluminum (AI), arongeric (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves f = 0.610

Determined by addition of analyzed constituents.

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USRR); United States Public Health (LADPH); Son Bernardino County Flood Cantral District (SBCFCD); Metropolitan Water District of Southern California (MWD); Las Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE B-11
ANALYSES OF SURFACE WATER

SAN FRANCISCO BAY REGION (2)

ARROYO DEL VALLE NEAR LIVERNORE (STA. 71)

	Anolyzed by 1				USGS											
	bid - Coliform A															
	- hid	ā			ч	7	m	9	7	2						 \dashv
	Hordness os CoCO ₃	Nog			172	31	*	70	577	35						
		Tatal	_		575	197	226	268	319	330						
	cent sod	5	 		38	17	19	18	28	32						
Total	dis- solved	mdd ui			1,035	270	320e	364 ^f	9067	540 ^a						
	1	Orner constituents					Total Alkalinity:									
	Silico	(2015)						16								
Ilion	5	<u>@</u>			2.9	0.3	44	0.5	0.8	6.9						
million per million	Flua-	(F)						0.00								
ports per million volents per mil	ź	(NO ₃)						0.0								
ports p	Chlo-	9(C)			216 6,09	13	19	24	46	56 1.58			-			
=	Sul -	(SO ₄)						69								
constituents	Bicar -	(HCO ₃)			491 8,05	3,33	3,70	278	334	360						
Mineral con	Carbon-	(CO _S)			00.00	00.00	0.13	00.00	00.00	0.00						
Ž	Potos-	E(X)						2.5								
	Sodium	(D Z)			163	19	25	28	2.44	72 3,13						
	Magne-	(Mg)						31 2.57								
	Calcium				11,50°	3.94	4.51°	56 2.79	6.38	309.9						
	Ha	63			7.9	8,1	8,3	8.2	7.7	8.0						
0,9000	conductance (micromhos	01 25.0			1,680	074	515	613	793	881						
1		%Sat			88	87	6	115	92	113	ש			ed	e q	
a = 0.98	Dissolved oxygen	€dd		pled	0.6	10.01	0.6	10.9	0.6	10.2	Not Sampled	mpled	mpled	Samp1ed	Sampled	
	Temp In OF			ot Sag	57	84	65	79	09	89	Not	- Not Sampled	- Not Sampled	- Not	- Not	
	Discharge Temp			Dry - Not Sampled	0.5	36	4.6	3,5	0.7	0.2	Ponded	Dry - 1	Dry - 1	Ponded	Ponded - Not	
	ond time	P.S.T	1962	1/10	2/7	3/15 0814	4/6	5/4	6/14	7/11	8/9 1200	9/6 1640	10/1 1035	11/5	12/5	

o Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

Sum of colcium and magnesium in epin.

Iron (F, aluminum (Al), areacite (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr.*5), reported here as $\frac{0.0}{0.00}$ except as shawn.

e. Derived from conductivity vs TDS curves. f = 0.616 f. Determined by addition of analyzed constituents.

g Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Branch States Department of Water and Power (LADMP); City of Los Angeles, Department of Subject Glistics of Southern California Chifornia Department of Water Resources (DWR); city of Los Angeles, Department of Public Health (LADPH); City of Los Beach, Department of Public Health (LADPH); City of Los Angeles, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

SAN FRANCISCO BAY REGION (NO. 2)

	Ter-	Hordness bid Coliform" Analyzed es CoCO ₃ lity MPN/mil by i ppm Total N.C.	USBR												
	Ter-	bid - Coliform ity MPN/mi													
	70.	- pig - pig													
	_	Hordness es CoCO _S Totol N.C. ppm													
- 1	- 3	Total Popm													
-	-	Pog E		0						Q,	<u> </u>			85	<u></u>
L	<u>ئ</u> ر	spilos in pod uj		16300	204	232	3446	2466	9219	14032	16340	10156	436	11028	6672
		Other constituents													
		Silico (SiO _E)													
	uoi	Boron (B)													
million	per million	Fluo- ride (F)													
STA, 28a) ports per million		Ni- trate (NO ₃)													
INEZ (ST	equivalents	Chlo- ride (CI)													
T MART		Sul - fate (SO ₄)													
SZ STRAITS A		Bicor- bonote (MCO ₃)													
CARQUINEZ STRAITS AT MARTINEZ (STA. 28a) Munaral constituents in		Corban- ote (CO ₃)													
CARC		Potas- sium (K)						•					-		
		Sodium (No)													
		Mogne- sium (Mg)													
		Coterum (Ca)													
		¥													
	Spacific	(micromhos of 25°C)		22857	314	372	5510	11360	9614	19494	18196	14782	737	14118	10374
		Dissolved oxygen ppm %Sot													
		Disso													
\perp		E.S.	_	84		52		79	22	99	2	₫	8	59	- 52
		Discharge Temp in cfs in of													
		ond time sompled P.S.T.	1962	1/17	2/19 1345	3/13	4/18 1225	5/16	6/20	7/17	8/14	9/12	10/17	11/14	12/20

a Field pH.

b Lobarotory pH.

c Sum of calcium and magnessum in epm.

c. Sum of calcium and magnesium in Apm.

1.0 (Re), aluminum (Al), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as 0.0 excapt as shown.

1.00 excapt as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

h Annual medion and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior of Reclamation (USBR), United States Geological Survey, Quality of Water Branch (USCHS), Los Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Las Angeles, Department of Public Health (LADPH); City of Las Angeles, Department of Public Health (LADPH); City of Las Angeles, Department of Mater Resources (DWR); as indicated.

32505-FMH 0-61 211 JPU

SAN FRANCISCO BAY REGION (2)

			Analyzed by i						USGS									
		4	bid - Coliformi ity MPN/ml						Median 23	Max. 620	Mfn. 2.3							
		_ vi_	- pid						175	55	15	10	10				2	-
			Hordness ae CoCO ₃	N					22	32	21	25	32				38	42
			Hord O O	Tatal					115	113	110	137	169				283	339
		Per-	God -						22	20	20	19	17				19	20
		Totol	solved solids	mdd vi					168 ^e	165e	163 [£]	186 ^e	222 ^e				363 ^e	437e
			Other constituents								PO ₄ 0.2 d As 0.01						Total Alkalinity:	Total Alkalinity: 362
			Silico	(2015)	-						12							
		ion	Boron	(A)					0,1	0,1	0,1	0.0	0.1				0.2	0.2
(2)	ports per million	equivolents per million	Fluor	(F)							0,2							
(STA. 8	ports per	olents	- iN	(NO3)					_		4.5							
MADRONE	-	equiv	Chlo-	(Ci)					12 0,34	0.22	10	0,31	12 0.34				10 0.28	33
K NEAR	2	- 1	Sul -								31							
COYOTE CREEK NEAR MADRONE (STA. 82)	constituents		- Bicar-	(HCO ₃)					114	1.62	108	136	$\frac{167}{2.74}$				283	349
COYO	Mineral co	- 1	Corban	(CO3)					00.00	00.00	00.00	00.00	00.00				0.27	0.20
	ž		Potos	(¥)							24	_						
			Sodium	(ON)					15 0.65	13	13	15	16 0.70				31	39 1.70
			Magne-	(Mg)							0.90							
			Calcum	(00)					2.30°	2,26	26	2.75°	3,38				5,66	6.78
			Ī	æ					7.9	8.1	8.2	8.2	ω ω				8.2	7.7
		Specific	(micromhos						288	282	280	325	380				622	748
	66.0 =		Devi gen	%Sat					94	120	113	124	115				117	73
	4d	1	Dissalved	mdd					10.4	12.8	11.6	11.9	10.2				11.3	7.9
			Temp In OF						51	54	22	63	70				62	53
			Discharge Temp				Dry	Dry	52	82	107	103	105	Dry	Dry	Dry	16	1.2
			ond time	P.S.T.		1962	1/8 1430	2/5	3/13 1250	4/4	5/2 1107	6/13 1549	7/12 1645	8/8 1000	9/4	10/1 1510	11/5	12/3 1030

b Laboratory pH. a Field pH.

c. Sum of calcium and magnesium in epm.

Solution transformers and provided (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived fram conductivity vs TDS curves £ = 0.584 Determined by addition of analyzed constituents.

Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

SAN FRANCISCO BAY REGION (2)

LOS GATOS CREEK AF LOS GATOS (STA. 74)

		Anolyzed by 1			USGS											~	
-	,	i bid - Coliform" Ar			Median 6.2	Мах.	Min. 0.62										
-		- Colar		 	3 6	E 0					'n			10			
-	L	P A C	iε				34 170	33 35	35 20	31 10	36	01 94	78 50	1 45	26 400	24 200	
		Hordnass as CaCO ₃	D E		398 139	321 120	118 3	122 3	117 3	118 3	141 3	210 4	313 7	489 171	83 2	2 2	
-			010d	 	ر ب	16 3;	15 11	15 1	17 11	16 11	16 14	13 21	12 31	14 48	17	15 11	
-		ad sod -			484°	413	166	172 1	168 ^f 1	170	1936 1	288 ^e 1	3978 1	585 1	118 ^e 1	165	
-	.وً ا	solvad solvad solids		 			16	17	16	17	19	28	39	- 28	=	16	
		Other constituents			Total Alkalinity:	Total Alkalinity:			PO4 0.20				PO4 0.10				
		Silico (SiO ₂)							14								
	million	Baron (8)			0.2	0.1	0.1	000	0.0	0.0	0.1	0.1	0.1	0.3	0.0	0.1	
million	per mi	Flua-	<u>e</u>						0.3								
parts per million	equivalents	Ni- frote	(NO3)						0.02								
ľ	equiv	Chio-	<u>(</u>		20	20 0.56	6.5	7.5	0.76	9.0	9.5	0,28	0.39	$\left \frac{25}{0.71} \right $	5.8	0.19	
- 1	ts in	Sul - fate		 					0.52				2,10				
	constituents	Bicar- bonate	(HCO3)		306	3,92	102	108	100	106	$\frac{128}{2.10}$	3.28	4.70	388	1.15	114	
- 1	Minerol co	Carbon-			0.17	0.10	00.00	0.00	00.00	0.00	0000	0.00	0000	0000	0.00	00.00	
:	Σ	Potos-	£						1.9 0.03				3.2				
		Sodium (No)			0.44	28	9.9	0.44	0.48	0.44	12 0,52	15	19	36	0.33	0.3	
		Mogne- sium	(Mg)						0.94				30				
		Caleium (Ca)			7.96	6.42°	2.36	2.44°	28 1.40	2.36	2.82	4.20	3.79	9.78	1.66	2.34°	
		Ī	8		7.8	4.8	7.8	7.8	7.3	7.2	7.5	7.4	8.2	8.0	7.4	7.6	
	Specific	conductance (micramhos at 25°C)			793	229	271	282	273	279	318	597	637	096	195	270	
			%Sat		86	108	96	92	100	106	110	91	93	76	06	92	
	a 10,98		maa		10.7	11.6	11.1	10.0	11.8	11.1	10.2	0.8	8,2	8.7	8.9	6.6	
		Tamp in of			52	53	47	52	97	55	65	70	70	65	09	53	
		Dischorge in cfs			0.7	2.8	14	15	70	80	150	4.2	6.2	9*0	3.0	37	
	,	ond time sompled	P.S.T.	1062	1/9	2/6 1520	3/14	4/6	5/4 0755	6/12 1358	7/13	8/8 2000	9/6 1605	10/3 1540	11/7	12/4 2000	

b Lobarotory pH.

Sum of calcium and magnesium in epm.

Sum of catcum and magnesium in Epin.

Iran (Fe), aluminum (AI), areasic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as 0.00 except as shown. Derived from conductivity vs TDS curves. £ = 0.610

Determined by addition of analyzed constituents.

Grovimetric determination.

Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by California Deportment of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Geological Survey, Quality of Water Branch (USGS); United States Geological Survey, Quality of Water Bepartment of Water and Power (LADWP); City of Los Angeles, Department of Survey, Department of Survey, Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated.

ANALYSES OF SURFACE WATER SAN FRANCISCO BAY REGION (2) TABLE B-11

NAPA RIVER NEAR ST. HELENA (STA. 72)

	Analyzed by i			USGS												
	bid - Coliformh A			Median 230	Max. >7000.	Mfn. 6.2										
	- N	2		4	25	115	10	10	m	2	-	5	45	m	2	
	Hordness os CoCO ₃	N G		14	0	m	29	10	19	18	7	1	10	0	0	
	Hord Os C	Total		108	¥	33	100	111	147	166	168	170	169	93	93	
	D D	5		36	23	07	27	26	22	19	20	19	19	41	ੜ	
Total	psvlos	in opm		217	59 ^e	999	170e	218 [£]	248e	260°	264 ^e	2318	261°	211 ^e	182°	
		Other constituents						PO ₄ 0.75 d As 0.01 ABS 0.1				PO4 0.10				
	Sinco	(S)O ₂)						91				29				
Hion	5	(8)		0.7	0,1	0,1	6,1	0.5	0.4	0.5	7.0	0.2	0.1	6.0	0.5	
per million	F luo-	(F)						0.3				0.2				
ports per million equivalents per mil-	1	(NO ₃)						$\frac{12}{0,19}$				4.1				
g oving a	Chio-	(CI)		30	3.0	5.2 0.15	20	18 0.51	17	13	18 0.51	14	0.34	30	18 0,51	
€	L	(SO ₄)						20 0,42				23				
atituent		(HCO ₃)		115	44 0.72	37	1.41	$\frac{130}{2.13}$	156	180	3,21	3,38	194 3,18	120 1,97	113	
Mineral constituents	Corban-	(CO ₃)		00.00	0000	0000	0.00	0.00	0.00	0.00	0.00	0000	0000	0000	00.00	
∑.	Potos-	(K)						3.3				0.07		·		
		(N a)		1,22	0.20	10	17 0.74	20 0.87	19	18 0.78	19	19	18 0.78	30	22 0.96	
	Mogne	(6 W 8)						$\frac{11}{0.89}$				1.59				
	Calcium	(00)		2,16°	0,68	99.0	2,00°	29	2.94	3,32	3.37	36	3,38	1.86	1.87	
	Y	85		7.0	6.9	7.3	7.4	7.2	7.2	7.1	7.5	6.9	7.0	7.3	7.0	
Spacific	Conductance (micromhas	J 67 ID		326	80	66	257	321	375	394	399	700	395	319	275	
1		%Sot		26	986	06	114	101	140	06	121	58	45	122	78	
e = 0.99	Dissolved	mod		5.9	5.6	10.0	11.2	80 0	11.6	80 12	11.2	5.4	4.2	12.6	9 0	
	Temp in oF			55	52	51 1	61 1	62	76 1	79	66 1	65	65	57 1	52	
	Dischorgs Temp in cfs in oF			8.2	6420	07.41	36	12	9 "	1.4	1.3	0.1	1.3	11	15	
	ond time	P.S.T.	1962	1/8	2/13 1110	3/6	4/10 1045	5/8	6/7	7/11	8/9	9/13	10/10 1605	11/15	12/12 1230	

o Field pH

Determined by addition of analyzed constituents.

Laboratory pH.

c Sum of calcium and magnesium in epm.

Join For Lancton and analysis of the second Derived from conductivity vs TDS curves f = 0.667

Gravimetric determination.

h Annual median and range, respectively. Colculated from analyses at duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Department of the Interior. Bureou of Reclamation (USBR), United States Bernordino Country Flood Control District (SRCFCD), Metropolition Water District of Southern California (4MD), Las Angeles Department of Water and Power (LADMP), City of Las Angeles, Department of Water and Power (LADMP), City of Las Angeles, Department of Water Broad (4MD), and Beach, Department of Public Health (LADPH); City of Las Beach, Department of Water Resources (DWR), as indicated.

ANALYSES OF SURFACE WATER

TABLE 8-11

SAN FRANCISCO BAY REGION (2)

CRANTINTO RIVER NEAR MALLARD STOUGH (STA. 150)

		Anolyzed by 1	USBR												
		bid - Coliformh													
	1	- piq - \$4 - u													
		Hordnass es CoCO Total N ppm pp													
1		- Pog		69	35	34	34	8	64	7	79	98	64	9	
	otol	solids cont solids cum In ppm		3596	222	192	138	136	334	2860	2704	2144	188	416	136
		Other constituents											-	~I	
		Sitico (SiO _B)													
	lion	1 5 1													
4. 15e	per million	Fluo- ride (F)													
SACRAMENTO RIVER NEAR MALLARD SLOUGH (STA. 15e)	equivalents per million	Nt- trote (NO ₃)													
CARD SI	nb.	Chio- ride (CI)		1718	43	31	177	19	125	1342	1193	6101	017	131	27
AR MALL	<u>e</u>	Sul - fate (SO ₄)													
RIVER NE	stituente	Bicar- bonats (HCO ₃)								.,,,=					
RANT NTO	Mineral constituents	Carbon- 010 (CO ₃)													
SAC	ž	Potas- sium (X)													
		Sodium (No)		899	56	22	77	10	3	70.8	593	552	8	60	
		Magne- sum (Mg)													
		Caleium (Ca)						<u>.</u>							
		Ĭ.													
	Specific	conductance (micromhos at 25°C)		2047	326	28.3	177	182	109	14505	1101	3515	549	619	233
		Dissolved oxygen ppm %Sot													
-				55		10		65	82	72	75	19	8	£	£ 9
		Dischorge Tamp	Tidal	u\											
		ond time sompled P.S.T	1962	1/17	2/19	3/13 1305	4/18	5/16	6/20	7/17	8/14	9/18	10/17	11/11	12/50

b Laboratory pH.

c Sum of calcium and magnesium in epm.

Sum of calcium and magnessium in thm.

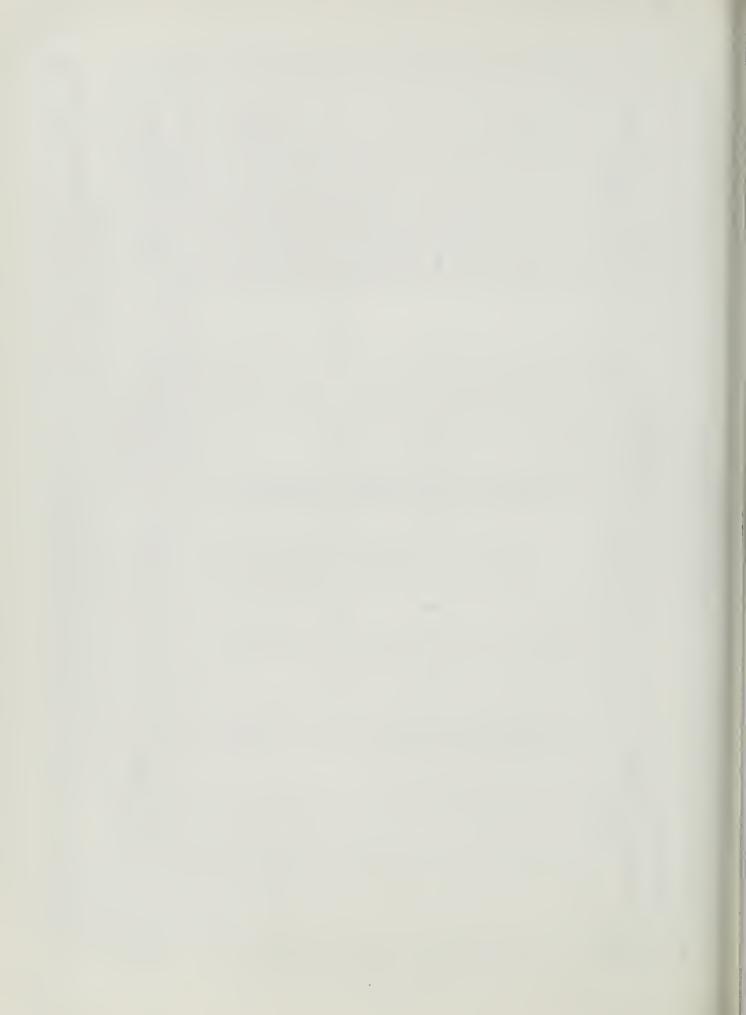
Iron (Fa), oluminum (A1), assaire (As), copper (Cu), lead (Pb), mangainese (Mn), zine (Zn), and hexavolent chromium (Cr*6), reported here as 0 0 except as shown.

Dorived from conductivity vs TDS curves

Determined by addition of analyzed constituents

⁹ Grovimetric determination.

JUNE OF BOOK JR h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service (USPHS), Son Bernardino Country Flood Mineral analyses Readenship States Public Health Service (USPHS), Son Bernardino Country Flood Control District (SECED), Martopolitan Waiter District of Southern Colifornia (MWD), Los Angales Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Boach, Department of Public Health (LADPH), Terminal Testing Lobaratories, Inc. (TTL), or California Department of Water Resources (DWR), as indicated.



CENTRAL COASTAL REGICN (3)

			Hord os Co	Total	
		0	sod -		
		Total	solved sod - os Co	mgg ri	
			Other constituents		
			Silico	(201C)	
	_	11100	Boron	<u> </u>	
83)	million	er m	Fluo-	(F)	
o (STA,	ports per million	equivolents per million	- IN	(NO3)	
DEL HI	ă	equivo	Chlo-	()	
ROBLES		Ē	Sul -	(80,	
IVER AT		STITUEDIE	Bicor	(HCO ₃)	
CARMEL RIVER AT ROBLES DEL HIO (STA, 83)		Mineral constituents in	Corbon-	(Co) (Mg) (K) (CO ₃) (HCO ₃) (SO ₄) (CI) (NO ₃) (F) (B) (SIO ₂)	
	:	Σ	Potos-	3	
			Sodium	(S Z)	
			Mogne	(Mg	
			Colour	(02)	
			I d	В	
		Spacific			
		66.0	panio	%Sot	

		A section 4	by i					USGS										
		H wooding.	os CoCO ₃ ity MPN/mi					Median 21	Max. 130.	Min. 0.13					-			
Ì		Total Profit	, i i		************			7	7	v	-	7	2				Н	П
			000°	mdd				184	16	19	29	67	70				32	89
		H	os Co	Edd				366	87	66	126	177	222				163	190
		Per	sod -					30	22	22	25	31	32				31	32
		lotol dis-	solids in ppm					614e	140e	164e	213 [£]	308°	387 ^e				283 ^e	335 e
			Other constituents															
		-	Silico (SiO ₂)	-							25							
	uo !	001	Boron (B)					0,1	0.0	0.0	0.0	ं।	0.1				0.0	0.0
83)	Ē	Der _	Fluor								0.3							
O (STA	ports per million	equivolents per million	trote	e e							0.0							
CARMEL RIVER AT ROBLES DEL HIO (STA. 83)	۱.	edu:	Chlo- ride					81 2,29	0.31	13	18 0.51	31 0.87	38				24	36
ROBLE	č		Sul - tote								45 0.94							
RIVER A	constituents		Bicor- bonate	E COLL				3.64	86	98	118	156	185 3,03				$\frac{160}{2.62}$	2.84
CARMEL	Mineral cor		Corbon-	16001				00.00	00.00	0.00	0.00	0.00	00.00				0.00	0000
	ž		Potos- Srum								2.5							
			Sodium (No)	Ì				3.13	0.48	13	20 0.87	36	48 2,09				33	1,78
			Mogne-	ì							$\frac{11}{0 \cdot 87}$							
			Colcium (Co)					7.32°	1.74°	1.99°	33	3.54	4.44°				3,26	3.80
			Ĭ.	,				7.5	7.8	8.3	8.3	7,3	7,3				7.4	7.8
		Specific	(micromhos at 25°C)					991	225	264	338	497	622				454	540
				1050/				110	92	97	123	100	77				105	113
	66 0 = 4	, .	o 🖫 🗀					11.8	10,9	10.0	11.9	10.0	7.6				10.8	11.8
								54	746	57	62	59	09				57	26
			Oischorge Temp				Dry	1,2	222	79	28	ي د و	1.6	טיט	Dry	Dry	2,8	8 4
			ond time sompled			1962	1/9	2/6 1140	3/14 0940	4/5	5/3	6/13 0825	7/12 0910	8/8 1550	9/6	10/3	11/7 0940	12/4

b Loborotory pH.

Sum of colcium and magnessum in epm.

c. Sum of colcium and magnesium in Epm. deliced (Rb), manganese (Mn), zinc (Zn), and hexovalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves £ = 0,620

Determined by addition of analyzed constituents.

Grovimetric determination.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardina County Flood Cantral District (SBCFCD); Metropoliton Water District of Southern California (MWD), Las Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

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ANALYSES OF SURFACE WATER CENTRAL COASTAL REGION (NO. 3) CUYAWA RIVER NEAR GAREY (STA. 44a)

		D														
		Anolyzed by i				DWR										
	4	bid - Caliform" Ify MPN/ml				0,0	23	23.33	 	62 23	2.3	2.3 <0.45				
	Tur-	- bid - Ity In ppm				\$ 25	\ 25	Z52	\Z25	<25	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	< 25				
		N C PPE				172	634	386	309	324	397	505				
						780	818	513	151	181	585	162				
_	P.	d sod -				%	58	ৱ	22	83	21	2 5				
_	Toto	solived solids in ppm				1448		875				1355				
		Other constituents						$PO_{l_t} = \frac{0.20}{0.00}$ As = $\frac{0.20}{0.00}$				Po _{l,} = 0.05				
	-	Silica (SiO ₂)				1 1		ଥା								
	lion	Boron (B)				0.30	0.32	0.23	12.0	12.0	0.30	0.34				
million	per million	Fluo- ride (F)				0.0		0.04		.01_	<u> </u>	1.0				
parts per million	1 1	rrate (NO ₃)				3.0		0.02				4.0				
ď	equivalents	Chlo- ride (C:)				85	95	80.0	32	34,	1,18	200				
	u. s	Sul - fote (SO ₄)				700		9.41				623 12.98				
	constituents	Bicar - bonate (HCO ₃)				3.38	3.68	2.30	173	3.20	3.76	353	<u>_</u> _			
	Mineral co	Corban- ote (CO ₃)				000	0.0	7.2	000	0.00	000	000				
;	M	Potos- sium (K)				5.2		0.11				4.7			- -	
		Sodium (No)				120 5.22	145 6.31	62 2.70	2.39	63 2.74	3.05	116 5.05				
		Magne- sium (Mg)				91 7.51		3.62				85				
		Colcium (Ca)				1.29		133				179 8.93		_		
		T d				7.98	6 4 4	8.08	7.9ª	8.18	8.08	7.3				
	Specific	(micromhos at 25°C)				1782	1890	1169	9401	9111	1357	1749				
		gen (r				134	161	140	971	977	134	54				
		Disselved oxygen ppm %aSot				13.2	14.0	12.8	11.2	10.0	10.8	5.2				
		Temp in of				S	74	99	72	477	8	79				
		Dischorge Temp in cfs in of		Dry No flow	Dry No flow	5 est.	1/2 est.	250 est.	250 est.	275 est.	641	1/2 est.	Dry No flow	Dry No flow	Dry No flow	
		Dote ond time sompled P S.T	1962	1-8 1330	2-5 1450	3-5	1500	5-1	6-7	7-10	8-7 1530	9-11	10-2 0750	11-14 D	12-4 0750	
-																

a Field pH.

b Labaratory pH

c Sum of calcium and magnesium in epm.

Join or Carcon and magnessian are the second of the second Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropoliton Water District of Southern California (MMD); Los Angeles Department of Water ond Power (LADMP); City of Los Angeles, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Lebaratories, Inc. (TTL); or Colifornia Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laborataries, or United States Public Health Service.

CENTRAL COASTAL REGION (3)

(HZH)
(STA.
MIGUEL
SAN
NEAR
RIVER
NACIMIENTO

		Anolyzed by 1					DWR					USGS				
		Hardness bid - Coliformh as CoCO ₃ ity MPN/mi				_	Medien 3.6	Max. 62.	Min. <0.45							
	,		mgg n				425	225	225	4.25	425	7	2	15	en .	7
		0000	D Edd				50		23	22	17	13	13	On .	80	13
			1'				214	207	121	114	103	102	105	110	116	120
		Cont Cont	٤				13	14	14	15	16	14	13	14	14	15
	Total	Penlos	in ppm				2898	278°	1578	160	158	146	143	142	163	170
			Other constituents				31		12 PO ₄ 0.1 A9 = 0.00				14 PO _{4 0.20}			
	1.	5	(SiO ₂)				70.0	0000	0,09	80.0	60.00	0.0	0.1	0.2	0.0	0.0
(38)	per million	-6	(B)					ं।		ol	ol	ા		ol .	ol	0
GUEL (STA. 438)	Ď		(F)				0.30		0.10				0.2			
OUEL (squivolants	ż	(NO ₃)				4.7		2.1				1.2			
SAN MI	a duing	Chlo-	(Cr)				0,42	0,39	0,17	6 0.17	4 0.11	6.0	6.0	6.4	5.8	0.19
R NEAR	ē	1	fate (SO ₄)				1,15		30				0,48			
ITO RIVE	constituents	Bicar-	(HCO ₃)	-			3,28	3,16	120	112	105	108	112	123	132 2.16	2.13
NACIMIENTO RIVER NEAR SAN MIGUEL (STA. 438)	Mineral con	Carbon	(CO ₃)				00.00	00.00	0000	0.00	00.0	0000	00.00	0.00	0.00	0.00
	Min	Potos-	(X)	•			4.6		1,2				1.2			
			(NO)				15	15	0.39	0.39	0.39	7.7	7.3	8.1	8.6	0.41
			(Mg)				1.84		15				12 0.95			
			(Ca)				4.9		1,20			2.04	$\frac{23}{1,15}$	2.21	2.32	2.40
		Ę	6 0				7.4	7.4	8.2	7.5	8.2	7.2	8.0	8.2	7.9	8
	eigi-	conductonce (micromhos	at 25°C)			ri .	479	977	273	257	253	234	232	228	261	272
			%Sot			to pond,	99	69	127	76	130	833	128	147	112	100
		Dissolved	mdd			inflow	6.8	80 0	12.8	10.0	12.0	80	12,6	13.4	10.4	80
		Temp In oF			2		54	09 a	58	54	99	54	09	67	65	09
		Oischarge Temp in cfs in aF			Dry No Flow	No eurfece	3 (est.)	Trickle	380	768	551	574	530	500 (est.)	500 (est.)	200 (est.)
		Oofe ond time	P.S.T.	1962	1/8 1810	2/6 1100	3/6	4/4	5/2	6/7	7/10	8/7	9/5	10/2 1345	11/6	12/3

Preld pH

c Sum of calcium and magnesium in epm

d Iran (Fe), aluminum (AI), arsence (AS), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*5), reported here as $\frac{0.0}{0.00}$ except as shawn.

Derived from canductivity vs TDS curves f = 0.625

Determined by addition of analyzed constituents.

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses at duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health (LADPHS), San Bernardino Country Flood Cannol District (SBCFCD), Metropoliton Water District of Southern California (MWD); Los Angeies Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH), City of Long Beach, Department of Public Health (LADPH), City of Long Beach, Department of Public Health (LADPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL COASTAL REGION (3)

PAJARO RIVER AT CHITTENDEN (STA. 77)

		Anolyzed by 1			USGS												
		Hardness bid - Coliformh oe CoCO ₃ ity MPN/ml			Median 22	Max. >7000	Min.				•						
		- Pig - Ati			4	Ю	35	15	7	2	7	50	10	15	7	-	
		COS	U E R		7	55	32	45	150	67	32	19	0	0	0	0	
		Hordr oo Co	Totol		997	525	157	314	530	067	067	504	472	645	416	475	
-		- pog			57	55	25	07	39	56	58	52	59	57	57	57	
		dis- solved	in ppm		1,319	1,357 ^e	255 ^e	640°	982 ^f	1330°	1360	1,200	1,280 ⁸	1,300°	1,155 ^e	1,300°	
		Other content of			Total Alkalinity:	Total Alkalinity:			PO4 0.25			Total Alkalinity:	PO ₄ 0.45 d As 0.01		Total Alkalinfty:	Total Alkalinity:	
		Silico	(2013)						9.7				26				
	lion million	Boron	<u>6</u>		1,5	2.2	0.2	6.0	1.2	2.0	1.9	1.4	2.4	0.1	1.6	1.8	
	ports per million volents per mil	F. 2.2							0.4				0.1				
E.N (51H	ports per	- <u>i</u> N	(NO3)						3.0				3.5				
UTTTEND	eguiv	Chlo-	(CI)		382 10,78	345	29 0.82	108 3,05	164	351	373 10,52	247	379 10,69	375 10.58	289	9,37	
D I W I C	5	Sul -	(\$0%)						253				122				
PAJARO FLVE AL CHILLENDEN (SIA. 77)	constituents	Bicor	(HCO ₃)		524 8.59	560 9,18	152	328	464	538	558	573 9,39	584	584	520 8.52	578	
PAU	Mineral con	Carbon-	(00)		18	0,20	00.00	0000	00.00	00.00	00.00	0.30	0000	00.00	12 0,40	0.40	
	Min		(X)						5.0			~~~	5.8				
		Sodium	(O.N.)		288	292	24 1.04	98	155	292 12,70	306	250	315 13,70	288	258	284	
		~	(Mg)						78				61 4.99				
		Colcium	(Ca)		9.32	10,50	3,14	6.28	84 7.19	9.80	9.80	10,09	68	9.58	8.32	9.50	
		Ĭ	Ø,		8.4	8.2	7.8	8,1	8.4	8,1	8.2	8.0	8.0	8.2	8.2	7.5	
	, i	conductonce (micromhos			2090	2,150	405	1,010	1,600	2,110	2,150	1,900	2,170	2,060	1,830	2,060	
Ì	1.00		%Sot		95	100	86	81	102	111	112	101	69	98	75	86	
	11	Dissolved	bpm %	 	8.6	10.4	0.6	8.6	10.5	10.9	10.9	8.9	6.8	8.0	7.6	9.1	
ı		Temp In of			58	57	56	55	58	19	63	72	19	29	59	55	
		Oischarge in cfs			0.7	0.7	185	10	6.7	2,9	7*0	9.0	0.5	0.5	1.0	0.7	
			P.S.T	1962	1/8 1600	2/5 1630	3/13 1545	4/5	5/3 0810	6/13 1320	7/12 1415	8/8 1220	9/5	10/1	11/5	12/3 1245	

b Loborotory pH

c Sum of colcium and magnesium in epm.

c sum or conclour anginesion are spin. A look (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{*5}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves. f = 0.631

Determined by addition of analyzed constituents

g Gravimetric determination.

h Annual median and raspectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Labaratories, or United States Public Health Service.

United States Department of the Interior, Bureau of Reclamation (USBR), United States Department of the Interior, Bureau of Reclamation (USBR), United States Public Health Service (USPHS); Son Benardina Country Fload Cannol District (SBCFCD), Metropoliton Water District of Southern California Department of Water Resources (DWR), City of Los Angeles, Department of Water Resources (DWR), as indicated.

CENTRAL COASTAL REGION (3)

SALINAS RIVER NEAR BRADLEY (STA. 43C)

		Anolyzad by i				DWR							USGS		<u> </u>		
-		bid - Coliform A				Median 5.6	Max. 62.	Min. <0.45		<u> </u>							
-		- P - Col				425 1	4.25	280	<25	07	4.25	< 25	10		15	m	74
+	je P	20°	O E			145 4	63	61 2	76 4	A A	19 4	20 <	13		18	13	71
		Hordness os CoCO ₃	Tatal pam p			349	297	231	260	148	121	118	108		116	130	133
-		sod –				29	28	30	27	19	21	18	17		17	17	18
	Tatel	solved salids	mag ui	-			4828	406 ⁸	415 ^e	2168	185e	180 e	160°		172 ^e	191 ^e	2006
		Other constituents								PO ₄ 0.1 Ae 0.00							
		Silico	(20iS)			W)	126	25	-31	5]	- 20 1 -	<u>м</u>					
	million	Baran				0.25	0,19	0,12	0,14	0,10	0,08	0.00	0		0,5	0,1	0 1
1201	e sed	Flua-	<u>(</u>				0.40	0.50		0.20							
(SIA.	equivolents per mil	l .	(NO ₃)				0.00	4.2		0.03							
LAULE1	a duive	Chlo-	(3)			50	37	0.76	32	13	0,20	60.17	1.4		13	8.2	0.26
NEAR	Ē	Sul -	(\$0\$)				3,24	2,33		48							
CALLMAS ALVER MEAN BRADLEI (SIA. 4)CO	constituents	Bicor	(HCO3)			3.64	285	3.40	3,68	139	124	118	116		119	143	145
CHITTHC	Mineral cons		(CO3)			0.44	0000	0000	00.00	00.00	0000	0000	0000		0000	00.00	00.00
	M	Potos-	(X				2.0	2.4		0.04							
		Sodium	(S)			2.87	53	45	45 1.95	16	15	12 0,52	10	yed	11 0.48	12 0,52	13 0,57
		Mogne-					2.40	22		18				Destroyed			
		Calcium	(0)				3.54	56 2.79		30			2,16	Sample	2,32	2,60	2.67
		H	8			8,3	7.5	8,1	8.1	8.0	7.8	8.0	7.7	7.8	8.1	7.9	7-8
	21,000	Conductance (micromhos				930	766	634	663	358	292	282	251		270	300	314
-			%Sat			136	72	7.5	97	66	93	121	110	102	104	101	100
		Dissolved	o, maa			14.0	8.0	8.4	10.0	10.0	9 ° 6	10.0	10.8	6.6	9.4	9.7	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
-		Temp In oF				56 1	20	20	56	288	26	76	09	61	89	62	09
		Discharge Temp				9.5	19	570	230	700	474	382	555	240	470	244	260
			P.S.T.		1962	1/8	2/6	3/6 0730	4/4	5/2 0730	6/7	7/10	8/7	9/5	10/2 1215	11/6	12/3 1600

Field pH

b Laboratary pH.

Sum of calcium and magnesium in epm.

Sum of calcium and magnesion in tepus. It is pure that the contract of the con

Derived from canductivity vs TDS curves f = 0.625

Determined by addition of analyzed constituents.

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples mode by Colifornia Department of Public Health, Division of Laboratories, or United States Public Health Service. (USPHS), San Bernardino Country Flood Control District (SECD), Marical orally Service (USPHS), San Bernardino Country Flood Control District (SECD), Maternal Department of Water Department of Water and Power (LADWP), City of Las Angeles, Department of Water Beach, Department of Water Resources (DWR); as indicated.

CENTRAL COASTAL REGION (3)

		Anolyzed by i					DWR										
		Hordness bid-Coliformh os CaCO ₃ lify MPN/ml					Median 9.6	маж. 700.	Min.								7
		D - bid - c					- 25	425	^25								
		000	D E C				108	113	163								
			1 1	 			293	313	405								
-		Per-	5	 			3 17	18	23								 -
	, c	drs- solved	in pp				4548	458e	650 ^g								
			Other constituents						PO4 0.4 As= 0.00								
		0011	(20iS)	 			24		78 128								-
	ا	5	(B)	 			0.06	0.08	0,15								
	per million	-001	(F)				0.40		0.50								
SALINAS RIVER AT PASC ROBLES (STA. 43A)			(NO ₃)				0.24		0.03								
ROBLES (ports p	Chlo-	(CI)				26 0,73	30	1.80								
PA30	Ē	Sul -	(SO ₄)				$\frac{112}{2.33}$		188 3.91								
LIVER AT	constituents	Bicor-	(HCO ₃)				3.70	244 4.00	295								
SALINAS F	Mineral con	Carbon-	(CO ₃)				0000	0000	0000								
	ž	Potos-	SIUR (X)				2.0 0.05		2.3								
		Sodium	(NO)				27 1.17	32	56 2,44								
		Mogne-	SIUM)				30		39								
		Colcium	(00)				3,39		98								
		H	ď				7.8	7.3	7.6								
		Specific conductance (micramhos	of 25°C)				645	989	982								
			Sot				20	109	76								
		Dissolved	Edd				80	10.0	7.6	mpled	Sampled	Sampled	Sampled	Sampled	Sampled	mpled	
		Temp In of			-		56	99	78	- Not Sampled	- Not Sar	Not Sa	Not Sa	Not Sa	Not Sa	- Not Sampled	
		Discharge Temp			Dry No Flow	Dry No Flow	200	105	10	Dry - N	Dry - D	Dry - D	Dry - 1	Dry - 1	Dry - 1	Dry - 1	
			P S.T	1962	1/8	2/6 1150	3/5 1730	4/4	5/2 1100	6/7	7/10 1630	8/7 1215	9/5	10/2 1530	11/6	12/4	Hobldon C

a Field pH

b Loborotory pH.

c. Sum of calcum and magnessum in epin.

d. Iron (Fe), aluminum (AI), assence (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁶), reported here as 0.00 except as shown. c Sum of colcium and magnesium in epm.

Derived from conductivity vs TDS curves. £ = 0.667

Determined by addition of analyzed constituents.

Grovimetric determination.

h Annual medion and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service (USPHS); Son Bernardino County Flood Cannot District (SBCFCD); Metropolitan Water District of Southern California Capifornia (WMD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Water Branch (LADPH); City of Los Branch (LADPH); City of Los Branch (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Los Branch (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

ANALYSES OF SURFACE WATER

TABLE 8-12

CENTRAL COASTAL REGION (3)

	_	_																
			Anolyzed by 1			uscs												
		4	os CaCO ₃ ity MPN/mi			Median 230	Max. >7000.	Mfn. 2.3										
		Tur	Pid-			20	2	80	15	6	2	20	m	9	20	2	2	
			000 g	N C		07	34	65	89	55	136	116	04	76	0	0	0	
				i		268	232	205	296	363	392	352	220	358	232	508	496	
	_	Per	sod -			84	53	24	8	3	3	51	09	67	57	37	35	
	_	Total	solids	rog ei		e40	622	300	475e	797 [£]	860	820°	638°	921 ⁸	655°	903	885	
			o sed to							PO, 19 2:1				PO ₄ 2.8 ABS 1.7	1			
			Silico	(SIO ₂)						위				67				
	ا۔	lion	Baron	(A)		0,3	0.3	0,1	0,1	0.5	0.5	0.7	0.5	0.7	60	0.2	0,3	
<u></u>	Pillie	per million	Ftuo-	(F)			0.6			0.6				1.0				
SALINAS RIVER NEAR SPRECKLES (STA. 43)	ports per million	equivolents p	- iN				<u> </u>			26				0.44				
PRECKLES		equiv	Chlo-			146	130	21 0.59	55	3,70	126 3,55	132 3,72	148	142 4.01	150	35	143	
NEAR S	-		Sul -							3.12				207				
S RIVER	at contitue of		- Bicar-	(HCO3)		278	3,56	$\frac{171}{2.80}$	278	375	312	288	219 3,59	322	302	7000	675	
SALINA	Mineral	- 1	Carban-	(00)		00.00	00.00	00.00	0.00	000	0.00	0.00	0.00	0.00	00.00	0.00	0.00	
	2		Potas-	3						21 0,54				$\frac{11}{0.28}$				
			Sodium			4.87	121 5,26	30	59	140	168	166	150	7.13	140 6.09	135	121 5,26	
			Magne-	(Mg)						51 4.17				5.26				
			Calcium	(60)		5.36°	4.65°	4.10°	5.91°	3.09	7.84°	7.04	207.7	38 1.90	4.63	10,16	9,92	
-			ī	69		7.3	7.0	8.2	8.2	8.4	7.5	7.7	7.8	7.4	7.3	7.4	7.4	
		Specific	(micromhos)			1,090	1,060	510	805	1,320	1450	1390	1,080	1380	1,110	1,530	1,500	
	- 1,00			%Sot		7	17	50	103	186	121	155	172	66	108	09	20	
	8		Dissolved	шаа		8.0	1.8	6.6	8.6	9.9	11.5	14.9	9.8	9,3	10.8	6.3	2.0	
			Temp In oF			53	99	48	65	71 1	65 1	1 99	81 1	99	09	57	19	
			Discharge Temp			2.0	1,1	450	6.5	2.0	0.8	1.0	1.5 (est.)	0.5	9*0	3.0	5.0	
				P.S.T.	1962	1/9	2/6	3/14 0845	4/5	5/3	6/13	7/12 0950	8/8 1500	9/6	10/3	11/7	12/4	

a Field pH.

b Laborotary pH.

c Sum of calcium and magnesium in epm.

C sum or carbonians magnessian in the spine (La), capper (Cu), fead (Pb), mangonese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves. £ = 0.587

Determined by addition of analyzed constituents.

g Grovimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Survey of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

CENTRAL COASTAL REGION (3)

Part		_																
Column C			Anolyzed by i														USGS	
The control of the			Coliform MPN/mi			Mediau 4.8	Max. 240.	M10. 2.3										
The control of the		1	P A					700	2 25	4.25	4.25						7	
Second Land			000	N.C			39				53							
The control of the						223	191	129	179	193	198						201	
The control of the			D D															
10 10 10 10 10 10 10 10		Totol	solids	ri E d d		366	2948	190 ⁸	2658		306						325	
1			Other constituents															
1) Jileo	20 O			29	ន្យ	28	FI								
1		lion	5	n n		0.05	0.04	0,03	0,03	0.03	0.05						0.0	
The contribution of the contribution Contributi	43D)	liE Je	Fluo-				0.30	0.30	0.30									
1	(STA.	3	1	(NO3)			0.01	2.0	0.02	0.01								
Signature Teach	PLEYTO	• quivo	Chlo-	(CI)		22 0.62	14 0,39	5 0,14	11 0,31	10 0.28	13						19	
Signature Teach	JER NEA!		Sul -	(\$0.4)			76	96.0	66	71								
Signature Teach	ONIO RI	stituents	Bicor-	(нсоз)		3.34	3.04	115	159	171	$\frac{177}{2,90}$						3.34	
10 10 10 10 10 10 10 10	SAN ANT		arbon-	(CO3)		0000	00.00	00.00	00.00	00.00	0000						00.0	
Direction Teach Dissolved Controlling Dissolved Controlling Dissolved Controlling Dissolved Controlling Dissolved		Min	Potos-	(K)			1.1 0.03	1.4	1.4	1.4								
1			Sodium	(0 N)		1.3	20	10 0.43	16	17 0.74	21 0.91						30	
1			Mogne-	(Mg)			14 1.18	10	13	15								
Discharge Temp Dissolved Conductonce pupped on year of the conducton year of the conductonce pupped on year of the conducton year of the conductonce pupped on year of the conducton year of the conductonce pupped on year of the conducton year of the conductonce pupped on year of the conductonce pupped on year of the conductonce pupped on year of the year			Calcium	(Ca)			53	35	50 2.50	52 2.59							4.02	
S.T. 10 10 10 10 10 10 10 1			Ī	ep .		7.4	7.5	7.8	7.7	7.9	7.5						7.5	
S.T. 10 10 10 10 10 10 10 1		Specific	onductonc			549	463	294	401	077	459						887	
5.T. Cest.) 5.T. Cest.	-			%Sot		109	86	06	97	98	106					led	66	
S.T. (est.) 16 56 16 56 16 56 16 56 16 56 16 57 16 57 16 57 16 57 16 57 16 57 16 57 16 57 16 57 16 57 16 57 16 57 17 18 18 18 18 18 19 18 19 18 10				mad		11.2	9.6	10.0	10.0	9.2	10.0	ampled	smpled	empled	ampled		9.6	
S. T. S. T.			Temp In OF				20	20	26	79	99	Not	Not	Not	Not	1	19	
S. T. S. T.			Dischorge in cfs			(est.	16	\$80	86	32	9					Ponde	0.3	
				P.S.T	1962	1/8	2/6	3/6	4/4 0945	5/2 0845	6/7	7/10 1515	8/7 1025	9/5 1150	10/2	11/6	12/3 1645	

o Field pH.

b Labaratory pH.

c Sum of calcium and magnesium in epm.

d from (Fe), aluminum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reported here as 0.0 except as shown. Derived from conductivity vs TDS curves. £ = 0.667

Determined by addition of analyzed constituents Gravimetric determination.

Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USCS); United States Department of the Internat, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardino Country Flood Control District (SBCFCD); Metropoliton Water District of Southern California Department of Water Resources (DWR); as indicated.

Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL COASTAL REGION (3)

SAN BENITO RIVER NEAR BEAR VALLEY FIRE STATION (STA. 77A)

-	_															_
		Anolyzed by i		USCS												
		bid - Coliform ity In ppm MPN/mi		Median 6.2	Max. 620	Mfn. 0.62										
ľ	ا ا	- bid - thy mpgn		'n	73	300	50	2	9	23	'n	4	in.	8		
		Hordness os CoCO ₃ Totol N.C.		256	252	116	103	130	26	55	132	167	193	190	146	
		Hord Os Co Totol ppm		999	715	476	202	550	375	496	572	625	647	682	009	
ľ	9	neo e cant		4.8	94	38	31	43	23	36	67	67	848	46	45	
	Totol	solvad solvad solvad ln ppm		1,400	1,452	810	820e	1,080 f	530	845	1,252°	14208	1375	1,413	1208	
		Other constituents		Total Alkalinity:	Po. 0.10 Total Alkalinity:		Total Alkalinity:	Total Alkalinity:								
		Silico (SiO ₂)						80				13				
	million	Boron (B)		1.8	2.1	0.8	0.9	1.5	0.5	1,3	1,7	2.1	1.7	2.0	1,6	Ì
	per mi	Fluo- ride (F)						0.2				0.02				
2	equivolents per million	Ni- trote (NO ₃)						0.0				2.2				
SAN BENILO MIVEN NEAR SEAR FALLS FAIL STATES (177)	equiv	Chlo- ride (Cl)		197	5.42	67 0	69 1.95	118	28 0.79	69	164	5.02	260	186	143 4.03	
EAST A	u, ı	Sul - fors (SO ₄)				250		356				485				
NEAR D	constituents	Bicor- bonots (HCO ₃)		456	541	382	434	440	394	7.54	500 8.20	501 8,21	554 9.08	564 9.24	482	
TIO NIVE	Mineral cor	Carbon- ote (CO ₃)		0.73	0.40	29 0.97	28 0,93	35	16	38	18	29 0.97	0000	0,00	35	
N DEN	ž	Potos- sium (K)						3.2				4.8				
ñ		Sodium (No)		278	278	115	106	190	50 2.18	130	248 10,79	280 12,18	274	270	9.74	
		sum (Mg)						108				9.71				
		Colcium Magne- (Co) stum (Mg)		13.32	14,30	9.52	10,10	2.10	7.50	9.92	11,43	56 2.79	12,94	13.64	12.00	
		I a		8.2	8.2	8.4	8.4	8.4	8.4	8.5	8.0	8.0	7.9	8.2	8.2	
	Specific	conductonce (micromhos of 25°C)		2,160	2240	1250	1,260	1,670	812	1,300	1930	2090	2,120	2,180	1860	
	0.97	15		92	91	86	110	134	123	124	107	105	98	107	131	
	0 = 0	Dissolved oxygen ppm %Sc		9.7	4.6	8 8	11.5	10.8	11.3	10.1	10.0	80	9.2	10.9	12.0	
-		Temp in of		53	55	57	54	77	65	76	63	73	63	26	65	
		Discharge Temp in cfs in oF		0.2	1.0	25	14	85	88	11	0.4	0.2	0.2	0.1	1.0	
	-	ond time sompled P S.T	1962	1/8	2/5	3/13	4/5	5/2 1510	6/13	7/12 1208	8/8	9/4	10/2	11/6 0915	12/3	

b Loborotory pH.

c Sum of colcium and magnesium in epm.

c. Sum of colcium and magnesium in epin.

d. Iran (Fe), oluminum (A1), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chromium (Cr^{*6}), reparted here as 0.00 except as shown. e Derived from conductivity vs TDS curves f = 0.648

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Branch (USCS); United States Department of Water and Power (LADWP); City of Los Angeles, Department of Surfect Observatories, Inc. (TIL), or California Department of Water Resources (DWR); os indicated.

CENTRAL COASTAL REGION (3)

		Anolyzed	by i	-	USGS												
		Coliformh	ity MPN/ml		Median 6.2	Max. 230.	Min. 2.3										
		Tur- bid-	n ppm		10	2	4	4	00	-1	2	'n	4	4	1	2	
		Hordness	N C COS		35	38	45	42	39	27	27	19	21	20	30	21	
		Hord	Total Ppm		158	154	129	140	146	139	139	132	133	136	148	135	
		Per-	Pos L pos		28	28	23	24	26	26	27	27	26	30	27	E .	
	į	dis-	spilos spilos		255 ^e	256 ^e	203 ^e	226 ^e	244 [£]	232 ^e	230 ^e	225 ^e	226 ⁸	232 ^e	242 ^e	232 e	
			Other constituents		Total Alkalinity:				PO4 0.40				PO ₄ 0.75				
			Silica (SiO ₂)						25				29				
	اے	001	Boron (B)		0.1	0,1	0.1	0:0	000	0:0	0.0		0,1	0.4	0.1	0.0	
. 75)	ō	Der millon	Fluo- ride (F)						0.2				0.2				
SAN LORENZO RIVER AT BIG TREES (STA. 75)	- u		trote (NO ₃)						0.00				0.9				
BIG TR		ánba –	Chio-		31	30	16 0.45	19 0.54	22 0.62	25 0,71	25	23	24 0.68	28 0.79	24	25 0.71	
IVER A	<u></u>		Sul - fate (SO ₄)						53 1,10				0.77				
RENZO R	constituents		Bicor- bonote (HCO ₃)		146	141 2.31	102	120	$\frac{131}{2.15}$	137	136	138	136	141 2.31	144	139 2.28	
SAN LC	Mineral co		Corbon- ote (CO ₃)		0,07	0000	0000	0000	0.00	0000	0000	0.00	0.00	0.00	0000	00.00	
	ž		Potas- sium (K)						2.2				0.04				
			Sodium (No)		28	28	18 0.78	20	24 1,04	23 1,00	24 1.04	22 0.96	22 0.96	$\frac{27}{1.17}$	25 1,09	28 1.22	
			Mogne- Sium (Mg)						9.5				8.0				
			Colcium (Co)		3,16	3.08	2.58	2.80	43	2.78	2.78	2.64°	40 2.00	2.72	2.96	2.70	
		7	. a		8.4	8,4	7.5	7.8	8,1	7.6	8.2	7,2	8.2	7.9	7.8	7.6	
		Specific	micromhos at 25°C)		420	421	334	371	387	381	378	370	358	382	399	382	
	66 0 =				121	122	76	96	121	113	106	92	104	100	109	87	
	11 60		ppm oxyg		12.9	13.2	10.8	9,5	11.2	10.5	10,3	8 1	4.6	7.6	11.4	7.6	
		Temp	ة. ا		55	53	87	57	99	99	62	70	89	62	29	51	
		Dischorge Temp	ın ofs		17	20	192	83	42	29	20	13	12	17	27	72	
			sompled P.S.T.	1962	1/9	2/6 1420	3/14 1415	4/5	5/3	6/12 1515	7/11	8/8 1840	9/6	10/3	11/7	12/4 1810	

Laboratory pH.

c Sum of colcium and magnesium in epm.

c Sum of calcium and magnessium in epm. d I per (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as 0.0 except as shawn.

Derived from conductivity vs TDS curves £ = 0.608 Determined by addition of analyzed constituents.

Grovimetric determination.

Mineral analyses mode by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamption (USBR); United States Geological Survey, Quality of Water Browning (WWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Water Browning (WWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Water Browning Resources (DWR); as indicated. h Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by Colifornia Department of Public Health, Division of Laboratories, or United States Public Health Service.

TABLE B-12

ANALYSES OF SURFACE WATER CENTRAL COASTAL REGION (NO. 3) SANTA YNEZ RIVER AT CACHOAN RESERVOIR (STA. 44b)

-																
		Anolyzed by i			DATR											
		bid - Coliform			0.45 0.45	\$0.45 \$0.45	0.6	\$0.45 \$0.45	0.6	<0.45	\$0.45 \$0.45	\$0.45	<0.45 <0.45	<0.45 <0.45	e, e,	9.0
	-	bid - ity n pom			<25	\ 25	<25	\$55	\$25	\ 25	\ 25	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	<25	\ 22	\ 25	C25
		000 S	D E G		182	170	149	151	159	160	170	169	169	173	174	172
			Total		358	346	295	泵	320	324	329	331	337	335	343	9 1 6
	0	Sod -			ৱ	ದ	179	ৱ	91	13	8	ส	8	ಸ	ส	19
	Toto	solved solids	E G G				824		164				521			
		Other constituents	- 1						POl, = 0.24				PO _μ = 0.05			
		Silico	(2 0.0)				121		∞ι				⇒1	-		
	million	Boron	e)		0.39	04.0	0.34	0.32	.33 .33	25.0	0.34	0.38	0.35	0.39	0.35	15.0
no. H. m	per mil	Fluo-			_01	_01	0.03		0.45	_01		<u> </u>	0.03	_01	01	Ol
ports our million	lents	N	(NO3)				2.4		0.01				0.5			
	equivolents	Chlo-			16	17 0.43	0.42	14 0.39	16 0.45	14 0.39	13 0.37	19 0.54	15 0.42	0.48	14 0.39	0.42
	Ē	Sul -	(\$05)				247		20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 2				72 70	7.110		- 110
	constituents	Bicor -	(HCO ₃)		3.52	3.52	26.32	3.20	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	2.88	194 3.18	3.24	3.36	3.24	3.38	3.30
			(°00)		8	000	00.0	000	000	0.10	00.0	000	000	000	00	0000
	Mineral		ŝ		010	010	9.09	010	4.6	410	010	010	9.6	010	010	0 0
		Sodium	(D N)		1.91	1.87		37	1.52	35	37	1.74	1.70 81.00	1.78	1.78	10.1
			(Mg)		_⊋!≓_	<u> </u>	34 33	_m_i	3.01	شاط	_ثماجز	<u> ¥</u> ci	3.30	<i>∓</i> I.i.	<u> </u>	M-i
		Calcium	(0.)				63 3.14 2		3.39				3.54			
		Ę.			8.1ª	8.18	7.6ª	8.08	7.5ª	7.9ª	8.1ª	8.1ª	7.78	8.2ª	7.5ª	4°6
ľ	080110	(micromhos			836	818 8	1 169	8 802	743 7	736 7	764 8	804	762 7	784 8	788 7	790
-	· ·		%Sot		107	93	8	118	108	138	100	101	%	102	88	76
		Dissolved	% шаа		10.8	9.6	.a.	12.4 1	10.4 1	12.4 1	8.8	8.8	8.0	8.8	4.8	9.2
-					09	28	29	299	79	02	72	72	18	7.2	7 79	9
-		Dischorge Temp			feet aptil	feet spill	100 est. 5	Full 100 5	Full 15 6	Full 10 7	1.8 to 7	2.9 to 7	5 feet 7	4.85 to 7	5.75 to 6 spill	6.15 to 6
		ond time	P.S.T	1962	1-8 28 1245 to	2-5 28 1450 to	3-5	4-3 Fu	5-1 Fu 1000 es	6-6 Fu 1530 es	7-10 1. 0830 ep	8-6 1350 8p	9-10 5 1500 to	10-1 4. 1505 sp	11-14 5. 0850 sp	12-5 0930 ap

Loboratory pH.

Sum of calcium and magnesium in epm.

sum or carcium and inspired in the pin. I the caper (Cu), lead (Pb), manganess (Ma), zinc (Zn), and hexavalent chramium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown (A), and the caper of the caper of

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents

g Gravimetric determination.

h Annual median and range, respectively. Colculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

3205-0-6 6-61 200 are Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Raclamation (USBR); United States Geological Survey, Quality of Water Branch (USPR); Los Angeles Department of Hours (ADWP); City of Los Angeles, Department of Public Health (LADPH); City of Los Angeles, Department of Water Resources (DWR); as indicated.

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TABLE B-12

ANALYSES OF SURFACE WATER CENTRAL COASTAL RECION (NO. 3) SANTA YREZ RIVER NEAR SOLVANG (45a)

		Anolyzed by i			DWR											
		bid - Coliform ity MPN/mi			6,0	0.6	. s. s.	6.2	6.2							
上	Torr	D - bid - City			\ 25	\ 25	<25	<25	<25							
		N CO3			898	162	176	386	205							
L		Hardr os Co Totol PPm			809	3#5	396	994	727							
L	0	sod -			13	18	8	179	83							
	Total	solved solved solids in ppm			902	531		716								
		Other constituents						$PO_{l_1} = \frac{0.03}{0.00}$ As = $\frac{0.00}{0.00}$								
		Silico (SiO ₂)			%	킈		<u>ଷ୍ଟା</u>								
-	Hion	Boron (B)			0,42	0.30	0.30	0.34	0.33							
m.Hio	per million	Fluo- ride (F)			0.30	0.50		0.50								
ports per million	equivolents	Ni- trate (NO ₃)			1.5	2.6		0.5								
۵	equiv	Chio- ride (Ci)			1.80	18	26	35	36							
	u s	Sul - fots (SO ₄)			313	204		256 5.33								
	constituents	Brear - bonots (HCO ₃)			417 6.84	3.12	3.76	31.7 5.20	267							
	Mineral co.	Carbon- ote (CO ₃)			00.0	1,4 0,43	19 0.04	000	0.0							
	¥	Potas- srum (K)			3.0 0.08	3.6		2.0								
		Sodium (Na)			67 2.91	35	1.96	50 2.18	<u>55</u> <u>2.39</u>							
		Magns- sium (Mg)			72 5.92	38		59	-							
		Colcium (Co)			125	74		90								
		Ĭ			7.78	8.2ª	8.18	8.08	7.9ª							
	Specific	conductance (micromhos at 25°C)			1301	774	852	1030	1776							
		15			101	91	134	142	140		.,.					
		Oxy Oxy PPm			10.0	9.5	13.6	12.0	9.11							
		Ten in of			179	09	09	76	78	× +> -						
		Discharge Temp in cfs in aF		Dry No flow	4 eat.	340	75	13	<u>0</u> /	No inflow Ponds not sampled	Dry No flow					
	,	Dots and time sampled P.S.T	1962	1-8	2-5	3-5 1215	4-3 1810	5-1 1050	9-6	7-10	8-6	9-10	10-1 1505	11-14	12-5	

o Field pH

b Laboratary pH.

c Sum of calcium and magnesium in epm.

c. Sum of caretum and magnessum in epin. d. Head (Pb.), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr.*5), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

32505-0-8 6-61 200 Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Broatment of Water and Power (LADWP); City of Los Angeles, Department of Surfect (USPHS); San Benardina Geoch, Department of Water Resources (DWR); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated.

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ANALYSES OF SURFACE WATER

TABLE B-12

CENTRAL COASTAL REGION (3)

	_	_														
			Anolyzed by 1		USGS											
		£	MPN/mi		Median 36	Max. 7000.	Min. 0.62									
		Tur	- pid -		9	2	7	en .	7	2	50	2	7	-	2	74
			S C C C C C C C C C C C C C C C C C C C		138	138	106	105	108	102	93	88	83	89	120	109
					354	348	237	267	297	305	296	300	296	305	327	324
		Par	sod -		29	30	22	24	54	29	28	27	25	27	28	29
		Totol	solids in ppm		582 ^e	589 ^e	366°	415 ^e	475 ^f	500	494e	484e	4848	470e	532 ^e	240
			Other constituents		Total Alkalinity:	Total Alkalinity:		Total Alkalinity:	PO4 0.35	Total Alkalinity:	Total Alkalinity:	Total Alkalinity:	Po4 0,40		Total Alkalinity:	Total Alkalinity:
		-	(SiO ₂)						28				37			
	uc	million	Boron (B)		0.1	0.1	0.0	0,1	0.1	0	0.0	0:0	0.1	0,2	0.1	0.1
9	ılım.	L Dec	Fluo- ride (F)						0.0				0.2			
SOQUEL CREEK AT SOQUEL (STA. 76)	ports per million	equivalents	trote (NO ₃)						0.0				1.1			
SOQUEL		inbe	Chlo- ride (C!)		98 2.76	94	24	35	50 1.41	86 2.43	64 1.81	59	55	65	61 1.72	1.81
REEK AT	01 840	- 1	Sul - fate (SO ₄)						132 2.75				$\frac{101}{2.10}$			
OQUEL C	constituents		Bicar - banate (HCO ₃)		236 3.87	3.90	160	3.16	3.77	3.70	3,92	3,90	260	263	3.93	258
Š	Mineral co	- 1	Corban- ate (CO ₃)		14 0.47	0.30	00.00	0.07	0.00	0.30	0,13	0,33	0.00	0,00	0.20	0.07
	ž		Potas- Sium (K)						5.0				4.8			
			Sodium (No)		2,87	3,04	31	39	43	56	53	2.18	46	53 2,31	58 2,52	62 2.70
			Magne- sium (Mg)						23				23			
			Calcium (Ca)		7.08	6.97°	4.74	5.34	81 4.04	6,10	5.92	90°9	3,99	6,10	6.54°	6.47
-		-	T o		8,4	8.4	8.1	8.0	8.4	8,5	8 6	8.1	8.0	7.9	1.8	8.1
		Specific	(micromhos at 25°C)		923	933	578	657	756	793	780	766	738	746	841	853
	- 1.00		gen %Sot		130	133	96	97	125	148	158	80	109	114	97	95
	10	è			14.2	14.1	10,7	9.4	11.0	13,8	14.2	6.8	10.7	11.3	10,1	10,1
		1	ia oF		53	55	51	63	72	99	70	75	62	19	57	52
			Discharge in cfs		0.4	3.0	58	20	8.5	7.0	2.0	1,5	1.5	1,4	9.8	08 .
			. D	1962	1/9	2/6 1330	3/14	4/5	5/3 1420	6/12	7/11	8/8 1750	9/6	10/3 1240	11/7	12/4

a Field pH

b Laboratary pH.

c Sum of calcium and magnesium in epm.

d Iran (Fe), aluminum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr⁺⁶), reported here as 0.0 except as shown.
0.00

Derived from conductivity vs TDS curves f = 0.631

Determined by addition of analyzed constituents.

Grovimetric determination.

h Annual median and ronge, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, as United States Public Health Service

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Burgau of Reclamation (USBR); United States Public Health Service (USPHS); Son Benardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California GwWD). Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

ANALYSES OF SURFACE WATER TABLE B-12

CENTRAL COASTAL REGION (3)

UVAS CREEK NEAR MORGAN HILL (STA. 96)

			Anolyzed by 1			USGS											
		A	bid - Coliform" ity MPN/mi		-	Median 6.2	Max. 620,	Min. 0.23		-							
		Tur-	- bid - ity in ppm			25	35	15	50	2	4	2	2	-	20	S	
			N.C			69	13	19	15	10	12	Ħ	9	10	14	φ.	
						230	101	126	111	124	128	160	159	174	26	131	
		Psr	sod -			12	13	12	14	1	13	13	14	13	13	11	
		Toto	solved solids in ppm			296	137	166	157 [£]	169 ^e	173	211	212 ⁸	218	128	175	
			Other constituents				Total Alkalinity:						Total Alkalinity:	Total Alkalinity:			
			Silico (SiO ₂)						81				26				
	_	million	Boron (B)			0,1	0.1	잉	이	1	0,1	3	01		0,1		
10	millio	Der m	Fluo- ride (F)						0.2				0.1				
(SIR. 9		equivolents	Ni- trote (NO ₃)						0.9 0.0I				0.4 0.0I				
AN HILL		AIDD	Chio- ride (CI)			0,31	6.0	0.19	6.0	6.0	6.0	7.6	7.5	8.8	5.2 0.15	6.5 0.18	
A'N MORU	2	- 1	Sul - fote (SO ₄)						0.46				23				
UVAS CHEEN NEAN MORGAN HILL (SIA. 90)	constituents		Bicor- bonate (HCO ₃)			196	1.75	111	$\frac{124}{2.03}$	$\frac{139}{2.28}$	$\frac{142}{2.33}$	182 2.98	166	3.15	101	2.44	
UVAS C	Mineral co.	- 1	Corban- ote (CO ₃)			0000	0000	0.33	0000	0.00	0000	0000	0.33	0.13	0.00	0000	
	W		Potas- sium (K)						1,1 0,03				0.0				
			Sodium (Na)			$\frac{14}{0.61}$	0.30	8.1 0.35	8.5	8.5	9.0	0.48	12 0,52	12 0.52	7.0	0.38	
			Mogne- sium (Mg)						13				18				
			Colcium (Co)	 		4.60	2.02°	2.52	26 1.30	2.48	2.56	3.20	7,7 7,7	3.48	1.94	2,62	
			H a			7.9	7.9	8.4	8.2	8.2	8.2	4.8	8.2	8,2	7.3	7.6	
		Specific	conductonce (micramhas at 25°C)			480	223	269	254	273	281	341	338	354	207	283	
	66 (1 6 1			103	80	135	124	134	132	102	141	140	92	106	
	99 U H W		Dissolved auygen ppm %S(10.5	82 8	13.5	12.0	13.1	11.8	2.8	11.3	11.2	9.2	11.2	
		ŀ	E o E o			58	51	59 1	62 1	61 1	69	76	80	80	59	55 1	
			Discharge in ofs		סייט	1.0 (eot.)	45 (est.)	8.5 (est.)	18 (est.)	123 (est.)	95 (est.)	1.0 (ost.)	0.25 (eet.)	3.0 (est.)	125 (est.)	15 (est.)	
		Dote	a -0	1962	1/8	2/5 1515	3/13 1340	1600	5/2 1200	6/13 1458	7/12 1550	8/8 1100	9/4 1530	10/1	11/5	12/3	

Field pH.

b Laboratory pH.

c Sum of colcium and magnesium in epm.

Iron (E.) aluminations (Cr⁺⁶), reported (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Gr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown. Derived from conductivity vs TDS curves # = 0.617

Determined by addition of anolyzed constituents.

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Rectamotion (USBR); United States Public Health Service (USPHS); Son Bernardina County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (AMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Southern California Department of Water Resources (DMR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DMR); as indicated. Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

ANALYSES OF SURFACE WATER
LOS ANGELES REGION (NO. 4)
COLORADO RIYER AQUEDUCT AT LA VERNE (STA. 69) ושמרר .-.

	10	1													
	Anolyzed by i			<u> </u>											
	Coliformh MPN/mi														
	- bid	dd		2.5	2.2	1.5	8.0	90.0	0.8	7.0	7.0	1.0		1.2	0.9
	Hardness as CaCO ₃	D E G		_{———}	्रिय	स्र	214	217	8	₹	₹	8	122	82	δ ³
_		1 . 1		330	334	335	335	337	336	334	333	335	341	343	348
	Cant Cant			£	38	39	33	93	38	O ₁	3	177	,5 1	14 5	33
	solved solids	ë		8 	682	989	88		685	769	700	714	716	726	727
		Other constituents		FREE CO2 = 1 ppm	FREE CO ₂ = 1 ppm	FREE CO2 = 1 ppm			FREE CO2 = 1 ppm	FREE CO2 = 1 ppm				FREE CO ₂ = 1 ppm	FREE CO ₂ = 1 ppm IRON = 30 ppm
	Silico	(S:02)	-	<u>6</u>	7:7	9.6	9.8	9.0	61	01	9.3	0/	9.4	2.2	
ıau	_	(B)						0.07							0.13
Ē	J.	(F)		0.02	0.02	0.02	0.02	0.02	0.02	0.0	7.00	0.03	70.0	0.02	4.00
ports per	Pio-Did	(NO ₃)		0.02	0.03	0.03	0.02	0.03	0.03	0.03	0.02	1.4	0.03	0.03	0.03
١	Chlo-	(C)	1	2.54	87	2.54	2.43	2.48	2.48	2.65	2.68	2.71	94 2.65	2.70	96 2.71
5	Sul -	(50 ₄)	1	62.12	294	6.09	295	293	298	300	306	310	314	312	312
Constituents	Bicar	(HCO ₃)	-	2.36	145 2.38	2.36	2.35	2.33	142	132	133 2.18	138	137	142	2.35
Mineral can	1			0.03	0.03	0.03	2 0.07	0.07	00.00	0.03	00.0	00.0	0.03	0.03	0.03
M		E(X)		0.10	0.10	5	5 0.13	5	5 0.13	50.15	5 0.13	5.13	5 0.13	0.10	5 0.13
	E		(1.20	4.22	99 4.31	1.31	4.31	96	102	105	108	105	109	104
	Magne-	Sign (PAg)		30 2.42	2.34	234	2.30	2.38	30	30 5.42	30	31.	30	2.4.5	30
	E no Solo	(00)	ì	4.29	4.34	86 4.29	4.39	87	86	4.24	4.19	1.19	4.34	1.4	64.4
	H		,,		8.5	8.4p	8.5 ^b	8.4°	8.3	8.3 _b	8.2b	8.3	8.3 _b		8.4b
	Specific conductonce (micramhos	at 25°C)	;	985	1080	1080	1085		1090	011	1120	1130	1115		1135
	Dissolved	100					8.6 84								
	Temp In OF			55	53	54	58			73	22	76			
	Discharge Tamp														
		sompled P.S.T	1702	January Composite Jample	February Composite Sample	March Composite Sample	April Composite Sample	May Composite Sample	June Composite Sample	July Composite Sample	August Composite Sample	Stptember Composite Sample	October Composite Sample	November Composite Sample	December Composite Sample

b Lobarotory pH

c. Sum of calcium and magnesium in epm.

c. Sum of calcium and magnessium in epm. d. Iran (Fe), atuminum (A1), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{*3}), reported here as $\frac{0.0}{0.00}$ except as shawn.

Derived fram conductivity vs TDS curves

Determined by addition of analyzed constituents

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Haolth Service (USPHS); Son Bernardino County Flood Control District (SBCFCD); Matropalitan Water District of Southern California (AMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Water District (SBCFCD); Matropalitan Water District of Southern California Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

2255 De 6-61 200 SPC

ANALYSES OF SURFACE WATER LOS ANGELES REGION (NO. 4) LOS ANGELES AQUEDUCT NEAR JAN FERUANJO (70)

	Analyzed by i		LASMP											
	bid - Coliform ity MPN/ml n ppm		.16	.051	316	.16	.16	.022	.051	.051	.051	.066	0.92	. 092
1 2	- pid -		9	σ.	2	4	50	9	σ.	91	7	22	ω	ľ
	N C C S													
			78	83	98	8	98	74	22	49	99	96	75	7.1
4	sod -													
Total	solids solids in ppm													
	Other canstituents		N=333; Fe= 201	NH3=01; N=27 NO2=02; Fe=015	NH3=0.0; N=.24 NO2=0.0; FC .01	NH3= 0.02; NO2=01	NH ₃ =0.02; N=0.41 NO ₂ =0.00; Fe=0.01	NH ₃ =0.00; N=0.40 NO ₂ =0.005; Fe=0.02	NH3=0.02; N=0.03 NO2=0.00; Fe=0.02	NH3=0.00; N=0.54 NO2=0.00; Fe=0.02	NH3=0.00; N=0.28 NO2=0.28; Fe=0.10	NH ₃ =0.00; N=0.28 NO ₂ =0.02; Fe=0.01	NH3=0.00; N=0.28 NO2=0.02; Fe=0.01	NH=0.02; N=0.34 NO ₂ = <u>0.01</u> ; Pe= <u>0.0</u> 4
	Silica (50:2)		%	27	27	56	33	리	81	제	ଯା	77	81	25
non	Baran (B)		01		0.41	0.38	0.52	64.0	0.35	0,40	0.49	0.57	0.44	0.45
aufil Ser	Fluo- ride (F)		.52	.52	82.	0.59	0.61	09.0	0.48	0.53	94.0	0.60	0.63	0.52
ports per	Ni- trate (NO ₃)		9.0	6.0	2.2	0.7	9.0	0.3	0.5	0.5	0.7	9.0	9.0	0.5
equive	Chlo- ride (CI)		81	18	&	81	81	16	킈	13	17	13	16	15
r.	Sul - fate (SO ₄)		8	81	33	33	었	88	ৱা	ৱ	윙	88	81	ट्
canstituents	Bicar – bonate (HCO ₃)													
Mineral car	Carbon- ote (CO ₃)													
Ž	Potos- sium (K)		4.2	4.3	ηηηηηηηηηη.	14.3	4.3	4.1	3.1	3.5	1,1	4.3	3.8	3.6
	Sodium (Na)		35	<u> </u>	31	35	33	%	5 [†]	88	200	01	53	<u> </u>
	Magne- sium (Mg)		5.4	1/2	5.2	5.9	4.9	4.9	2.9	3.9	3.9	6.8	4.6	1.1
	Calcium (Ca)		24.8	24.8	98	93	24	22	81	19	8	27	25	22
	Ŧ.		8.548	8,39 ⁸	8.448	8,60	B.22ª	10.46	3°30°	B.22ª	3.30	8,448B	8°38°8	8,408
Specific	conductance (micromhos at 25°C)		362	334	347	351	331	318	529	252	281	385	313	%
	1 7													
	Dissolved oxygen ppm %Sc		п.°	10.8	8.11	9.5	0.	8.0	7.6	φ. -1	7.8	& &	9.6	10.0
	Temp in OF		4.5	84	84	59	5	99	72	70.7	70.7	63	59	0,000
	Discharge Temp		1,92	230	684	464	764	864	1699	164	964	767	347.1	475
	ond time sampled P S.T.	1962	1-16	2-20	3-20	4-17	5-22		7-24			10-16		12-18

o Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

c Sum of calcum and magnessum in epin.

I lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*5), reported have as 0.0 except as shown of lron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*5), reported have as 0.00 except as shown

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents Grovimetric determination.

32505-0-H 0-01 200 540 Annual median and range, respectively Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Department of the Interior, Bureau of Reclamation (USBR), United States Department of the Interior, Bureau of Reclamation (USBR), United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Succession (USBR), United States Branch (USBR), Las Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Succession (USBR), City of Los Angeles, Department of Water Resources (DWR), as indicated.

LOS ANGELES RIVER AT LONG BEACH (STA. 48)

	Andward	by 1		ТВОРН				0.45 LBDPH	DWR	E S			1.B.Dr.	1	IB Den	I'B OF H
	" washing	MPN/mi		0002			62	0.45	700	700	24000	402	62000	62 240	700000	700000
		ka u		\$11gh(21000	Mod- erate		Mod- erate	Mod- erate	077	fod- erate	fod- erate	Mod- erate	-pow	25		7
		S O E O		- 					552		<u> </u>			209		
									864					1056		
	Per	- po							† ₈					85		
1000	-81 0	solide in ppm		9546	29760		5887	29000	7050	8200	11451	9300	13865	9800	9550	9750
		Other constituents		5 day BOD = 64.0 Oll & grease = 53.0 ABs = 0.0	oil & grease = 78.8		$cr^{+6} = 0.13$ ABs = 0.16	Oil & grease = $\frac{72.4}{5}$ day BOD = $\frac{511.4}{5}$	PO ₁ = 3.00 NH, = 16 NB ¹ = 1.00	Oil & grease = 131	MBs = 0.00 011 & grease = 117	ubs = 0.16 Mul & grease = 58	out & grease = 39.0 cr+6 = 0.0 day BOD = 186	PO ₁ =5.6; As=3.5 NH ₁ =21; ABs=2.1		
		Silica (SiO ₂)							۵l					81		
ion	ŝ	Boron (B)							8.8					og		
Ě		Fluo-							0.82					0.82		
6	S I I I I I I I I I I I I I I I I I I I	frote (NO ₃)		o ₁	1.3		0.0	1.8	0.02	8.0	0.0	0:0	0.0	3.0	01	0.2
0	adoin	Chia- ride (CI)		1,041.0	14750		3170	14370	3750	1,065	5800	4450	7380	51.75	5300	4650
<u>c</u>		Sul - fate (SO ₄)		225	772		232	7.9	197	201	164	546	255.5	202	471	944
constituents		Brcar- bonate (HCO ₃)		353	633		228	518	381	262	396	341	904	55th	3.08	284
Minerol cor		Carbon- ote (CO ₃)		0:	0:0		0:0	0.0	00.00	0.0	0.0	0.0	0.0	00.00	000	00.00
∑ X		Potas- sium (K)							26					0 39		
		Sodium (No)		3100	6800		1450	8800	2200 95.70	2650	3700	2900	4995	3150	3000	3000
		Mogne- sium (Mg)		107	292		8	293	86 8.06	88	102	125	135	9.70	152	183
		Calcium (Ca)		222	584		166	580	186 9.28	205	258	됣	304	230	516	302
		I E		7.5	7.3		8.3	7.3	8.28	7.6	1 °∠	7.3	7.7	7.8ª	7.3b	7.6b
	Specific	(micramhos at 25°C)							11641					14993		
		15 1		0	0		0.02	0	09	3.3	2.4		0.0	12		
	Desolved	okygen ppm %		0	0		8.0	0.0	5.2	8.0	1.9		0	1.2	Not avail- able	
	Te mo	ة ا		29	179	Led	179	92	7.14	69	8,1		68	1/2	68	61
	Dischords	in cfs in of		11	19.4	not sampled	9.0	1.6	18.6	17	12	11.0	15.8	15.4	14.6	13.8
		ond time sompled P.S.T.	1962	1-3	2-7	3-7	4-4 1030	5-2	5-8	1030	1-7	1000	1000	9-7	1030	12-5

b Lobaratory pH.

Sum of calcium and magnesium in epm.

Sum of calcium and magnessium in Epin.

1 Iran (Fe), oluminum (A1), arsenic (A2), capper (Cu), lead (Pb), manganese (IAn), zinc (Zn), and hexavalent chromium (Cr*⁵), reported here as \$\frac{0.0}{0.00}\$ except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents

Gravimetric determination

Amerial analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR), United States Geological Survey, Quality of Water Branch (USBR), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated.

2255-24 6-3 2X h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratoriss, or United Stores Public Hoalth Service.

32505-0-8 6-61 200 SPD

LOS ANGELES REGION (NO. 4)
LOS ANGELES RIVER AT LCS ANGELES (STA. 47) ANALYSES OF SURFACE WATER

		70	1											
		Anolyzed by i		I.AHD	TAHD	IAM	LAND	LAHD	DWR	IAND	LAHD	LAHD	LAHD	DWR
		bid - Caliform 11y MPN/mi		4.3	4.3	110	230	430	240	.03	110	5400	110	62
	Tur-	- piq - th - th - th - th							9					ev.
		CO3							78					154
									410					1416
	Par	S Sod -							†9					72
	Total	solids solids in pam		1048	843	628	1134	1384	1455	1574	1480	1870	1539	1820
		Other constituents		$cr^{+6} = \frac{0.02}{0.0}$ ABS = $\frac{0.02}{0.0}$ ABS = $\frac{0.0}{0.0}$	B II	011 & grease = 74 Cr ⁺⁶ = 0.0. PO ₁ = 0.0 O11 & grease = 29		Oil & grease = 52.5 Cr ⁺⁶ = 0.00	$PO_{1_t} = 0.64$ $NH_{1_t} = 1.4$ As = 0.00	c +6 = 0.00 ABs = 0.00 Oil & gresse = 84			" <u>~</u>	$PO_{l_1} = 0.44$ $ABS = 0.32$
		Silica (SiO ₂)				O m	0	b U	30	OKO	OAC	0<0	Son	98
	million	Boron S (B) (C		0.80	9.0	0.10	0.20	1.2	1.12	0.90	1.40			2.00
million	per mill	Fluo- ride (F)				0.	0.	1.33	0.82	01	el			0.088
0	ı	Ni- trate (NO ₃)		~-1			01	<u>†₁</u>	0.03	01_	01		ബ	0.00
ď	equivalents	Chio- ride (CI)		094	082	120	300	374	358	001	330	230	380	13.48
C1 S		Sul - fore (SO ₄)		161	420	898	354	366.3	333 5.94	205	551 3	613 5	609	11.14
atituent	, Iliteria	Bicar – bonate (HCO ₃)		175	125	130	225	520	40.5 5.64	00	105	562	125	320 5
Mineral constituents	, in .	Carbon- ofe (CO ₃)		<u>8</u>	8	01	₈	0/	00.00	20	120	07	65	000
Min		Potas- Sium (K)							6.6	n /1	a.	71	01	0.16
		Sodium (No)		230	172	19	223	345	342 6.	382	386	661	4.604	495 6. 21.53 0.
		Magne- Sium (Mg)		75	69	79	82	67.5	3.37	26	29	81	125	52 1
		Calcium (Ca)		88	8	37	8	88	4.84	76	88	8	46	82 4.09
		Ŧ.		8.1	8.4	7.9	8.2		et	7.8	0.6	e. 60	3.77	8.28
	Specific	conductonce (micrambos at 25°C)							2331					2829
		1 6		F	144	24	139	176	122	65	210	63		500
		O1530 Muy DPM		٠ %	14.8	6.	13.92			4.9	17.6	5.5	14.48	16.8
		. c.		26	85	59	9	08	33	62	-	73		78 1
		Discharge Temp		8.4	1.8	37.6	13			0.3	r.0	0.07		0.1
		sompled Sort	1962	1-3	2-7	3-7	1030	5-2 1110		1130				9-7

b Labaratory pH. a Field pH

c Sum of colcium and magnesium in epm

d Iron (Fe), olumnum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chromium (Cr⁺³), repaired here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents. g Gravimetric determination.

h Annual median and ronge, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United Stotes Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Pepartment of Water Branch (USPHS); San Bernardino Country Flood
Control District (SBCFCD); Metropoliton Water District of Southern California Department of Water Resources (DWR); City of Los Angeles, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

LOS ANGELES REGION (NO. 4) LOS ANGELES RIVER AT LOS ANGELES (SIA. 47)

	_					
	Anolyzed	by i		MMD	MWD	
	A margine	ity MPN/mi		930	6.64	
	L Pid	, E 0 0				
	1688	os CoCO ₃				
L	Hord	Tatol N C		001	350	
_	900	- Pos				
	dis-	solios solios in pom		1977	1820	
		Other constituents				
		Silico (SiO ₂)		0	1.2	
	LO I	Boron (B)				
million	noillien yad	Fiuo- ride (F)				
1 = 1	equivolents	rota (NO ₃)		7	αl	
ā	Ainbe	Chio- ride (Ci)		640	670	
9	-	Sul - fote (SO ₄)		621.4	518.5	
	-	- 1				
na fit	_	- Bicar- bonefs (HCO ₃)		<u>240</u>	350	
Monarol Constituents		Corbon- ofs (CO ₅)		01	잌	
2		Potos- sium (K)				
		Sodium (Na)		1446.2	598	
		Calcium Magns- (Co) sium (Mg)		87	833	
		(Co)		2113	112	
		ī		8.2	8.1	
	Specific	(micrombos pH				
-	- 0	9en (n		68.5	†9	
	- Iose	osygen ppm %Sol		6.56 6	9 79.9	
				9 19	57 6	
	90000	in cfs		0.1	0.03	
		sompled P.S.T.	1962	7-11	12-5 1030	

b Leberatory pH

c Sum of colcium and magnesium in epm.

c. Sum at colicium and magnessium in epim.

d. Iron (Fe), aluminum (A1), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reparted here as $\frac{0.0}{0.0}$ except as shown

Derived from canductivity vs TDS curves

Determined by addition of analyzed constituents.

Grovimetric determination.

i Minaral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health (LADPH); Son Bernardine Country Flood Control District (SBCFCD); Metropoliton Water District of Southern California (WMD). Las Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Water Resources (DWR); as indicated to Angeles, Department of Water Resources (DWR); as indicat h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Divisian of Laboratories, or United States Public Health Service.

32505-0-8 6-61 200 SPO

32505-0-8 6-61 200 SPO

ANALYSES OF SURFACE WATER
LOS ANGELES RECION (NO. 4)
MATILLA CREEK ABOVE MATTLIJA MAN STAL 455) TABLE B-

	Analyzed by i		DWR												
	bid - Caliform ity MPN/ml		1.3	0.146		2.3	0.6	0.6	2.2	6.2	6.2	210	2.3	6.2	2.3
Į.	Pid- Ity In ppm		\ 25	<25	3100	<25	\ 25	<25	\ 25	<25	<25	\ 25	<25	<25	V 525
	CO3 DBM		260	263	8	246	243	250	245	254	249	241	247	241	263
			507	774	203	1422	413	1,32	435	454	4+5	1,39	8414	1,43	1465
0	sod -		58	83	17	13	97	16	18	19	22	27	58	26,	%
Tatal	solved solids in ppm			771	304			629				762			
	Other constituents							$PO_{l_{4}} = \frac{0.00}{0.00}$ As = $\frac{0.00}{0.00}$				POl ₄ = 0.03			
	Silica (SiO ₂)			118	13			ଧା				티			
lon	Boron (8)		1.90	1.60	u.0	0.32	0.35	0.44	99.0	0.79	1.18	1.84	2.14	1.66	1.62
million per million	Fluo- ride (F)		-71	0.9	0.3			0.67	91	01		1.2			- MI
parts per equivalents p	rote (NO ₃)			0.0	9.3			0.00				0.02			
equiv	Chlo- ride (Ci)		70	54 1.52	2 0.05	8	13 0.37	15	2 0.59	27 0.76	1,18 1,18	63	69	67	1.86
Ē	Sut - fate (SO ₄)			345	2.26			295				300			
constituents	Bicar – bonate (HCO ₃)		301	3.62	2.30	3.52	3.40	3.64	232 3.80	245	239 3.92	3.90	245 4.02	246 4.04	245 7.04 7.04
Mineral can	Carbon - 010 (CO ₃)		00.0	0.00	00.00	00.00	0.00	0.0	00.00	0.00	0.00	0.00	00.00	0.00	000
Min	Potos- sium (K)			3.0	1.6			1.9				3.1			
	Sodium (No)		3.90	3.61	15	1.8	37	39	1.91	50 2,18	58 2.52	3.52	3.44	3.18	3.26
	Magna- sium (Mg)			3.69	12 0.95			35 2.85				37.54			
	Colcium (Ca)			104 5.19	62 3.10			116 5.79			-	125			
H	ī		7.58	7.3ª	7.8 ^b	8.18	8.2ª	7.9ª	7.9ª	7.3ª	8.08	7.9ª	7.8ª	8,1ª	7.7a
0	conductance (micramhas at 25°C)		1317	1123	453	1881	965	88	396	1019	1088	1097	1128	n33	9411
			79	79		108	104	95	06	68	%	88	91	76	=======================================
	Dissolved oxygen ppm %Sa		0.8	4.8		11.2	10.8	9.5	8.8	8.0	4.8	8.0	8.0	10.4	7.6
	Te mi		29	57	64	58	28	09	62	02	72	89	72	54	62
	Oischorge Temp		4.5	6.5	817	96	59	32	. &	8.6	6.0 est.	3.5	3.5	φ.0	2.5
	ond time sampled P.S.T	1962	1-9	2-7	2-8	3-8	4-5	5-3	6-8 0800	7-9	9-6	9-11	10-2	11-13	12-4

b Laboratory pH. a Field pH.

c Sum of calcium and magnesium in epm.

c. Sum of calctum and magnessum in this.

d. Iron (Fe), aluminum (AI), arsatic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr⁺⁶), reported here as 0.0 except as shown d. Iron (Fe), aluminum (AI), arsatic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr⁺⁶), reported here as 0.00 except as shown

Determined by addition of analyzed constituents Derived from conductivity vs TDS curves

Gravimetric determination

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Water and Power (LADMP); City of Los Angeles, Department of Water and Power (LADMP); City of Los Angeles, Department of Water and Power (LADMP); City of Los Angeles, Department of States (MWD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Divisian of Laboratories, or United States Public Health Service.

IABLE -13

ANALYSES OF SURFACE WATER LOS MIGSLES REGION (NO. 4)
MISSION CREEK AT WHITTERS MARROWS (STA. 49a)

	70													
	Anolyzad by 1		DWR											
	bid - Colform 3 nppm MPN/mi		99	700	13	230	62 23	23	240	130	63	62 4.6	270	23.3
	- pig		%	\ 25	\$ 25	\ 25	\ 25	\ 25	<25 <25	\ 25	\ 25	\ 25	\25 \	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
	8000 N g		8	152	130	911	184	136	109	61	147	91	73	85
	Hord Total		290	336	316	328	330	348	301	195	191	191	549	275
	sod -		77	17†	12	174	21	17†	177	17	15	15	16	12
Tofol	dis- solved solids in ppm			457		544	Jt25			320	270			
	Other constituents						$Po_{1_1} = 0.04$ As = 0.00				Po _{th} = 0.00 As = 0.00			
	(S)(ca			55		136	23			18	13			
100	5		0.09	0.12	0.20	0.20	80.0	0.13	0.10	6.03	0.08	0.06	60.00	0.05
million per million	Fluo- ride (F)			0.0		0.50	0.03			0.03	0.50			
10				7.3		9.5	0.10			3.0	1.8			
ports p	Chlo-		15	22 0.62	20	0.59	18	18	17 0.43	14	8	10	10 0.28	0.37
=	Sul - fots (504)			3.29		133 2.78	201		2.44	81	63			
constituents	Bicar- bonots (HCO ₃)		23h 3.84	3.63	3.16	256	251	259	3.84	163 2.68	2.90	2.90	3.52	232 3.80
I	Carbon- ote (CO ₃)		000	00	17	0000	00	00.00	00.0	0.00	000	0.00	0.0	00.0
Mineral	Patos- Sium (K)			3.6		0.0	0.00			2.4	2.8			
	Sodium (Na)		21 0.91	1,04	20 0.87	24 1.04	20	25	23	18	16	16	16 0.70	17 0.74
	Mogns- Sum (Mg)			25 2.03		2.14	21			21	1.13			
	(CO)			97		14.39	4,44			54 2.69	54 2.69			
	Ŧ		7.4ª	7.3ª	7.4ª	7.9ª	7.3ª	7.3ª	7.98	7.38	7.3ª	7.38	7.5ª	7.5ª
	conductonce (micromhos		649	726	419	685	949	742	459	474	1430	1434	542	592
	15		72	62	977	73	75	63	98	92	83	16	8	1 18
	Dissolved oxygan ppm %Sc		7.4	0.8	1.2	7.5	7.2	0.9	0	6.8	7.6	8.9	9.5	ω ω
	T o o		85	82	79	62	19	179	72	22	8	02	62	26
	Dischorgs Tamp		80,00	2, 1	9.5	2.2	1.3	1.1	6.0	1.2	ήή°ο	1.1	1.6	O • N
	ond time sampled P.S.T	1962	1-10 0955	2-13 0950	3-7	14-3 0820	5 - 8 0806	6-11	7-6 0940	8-2 0825	9-13	10-3	11-13	12-4 0845

g

32505-D-8 6-61 200

b Laboratory pH.

c Sum of colcium and magnesium in epm.

c. Sum at colicium and magnessium in sepi... d. Iron (Pb.), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺³), reparted here as 0.0 except as shown. d. Iron (Fe), aluminum (Al), arsence (As), copper (Cu), lead (Pb.), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺³), reparted here as 0.00 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

I Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Water and Power (LADWP); City of Las Angeles, Department of Southern California (WMD); Los Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

32505-0-8 6-61 200 SPO

WATER		14ec)
SURFACE	REGION (NO. 4)	AR PIRU (SILA.
ANALYSES OF	LOS ANGELES	PIRU CREJK W

		Anolyzed by i			DWR	TIL	DWR										
		bid - Coliform			6 4.5		9 9 1	9.17	6.2	9.0	0.00	6,2	23.6	62 240	23	13	
	Tar	- Pid Ligd u			\ 25	500	100	\ 25	8	\ 25	\ 25	\ 25	<25	\ 25	\ 25	\ 25	
		S COS COS COS COS COS			348	104	₄ 56	254	237	238	88	199	353	278	सू	370	
L					538	268	029	398	369	386	328	329	179	794	535	596	
L	Q.	Sod -			32	13	88	25	ৱ	N	R	23	99	25	82	2	
	Total	solved solved solids in ppm			1063	850	1291	069	429		545		1136			<u>=</u>	
		Other constituents							$Po_{l_{t}} = 0.06$ As = 0.00				$To_{th} = 0.07$				
		Silica (SiO ₂)			취	7	श्र	91	위		옑		1,T				
	million	Boron (B)			2.10	0.23	1.00	09.00	0.62	0.59	0.50	0.66	8	0.81	0.90	16.0	
million	per mil	Fluo- ride (F)			0.03	0.0	0.00	0.08	0.0		0.0		0.00				
ports per million	ĿΙ	rrote (NO ₃)			1.9	7.0	3.1	4.5	3.6		0.03		00.00				
١	equivolents	Chio- ride (CI)			5 ⁴	0.32	38	18	13 0.37	14	ਜੂ ਨੂੰ ਹਿੰ	12 0.34	33	23	0.77	31 0.87	
1	<u>c</u>	Sul - fote (SO ₄)			524 10.91	46.6	647	344	295		5.30		541				
	CONSTITUENTS	Bicar – bonate (HCO ₃)			3.24	3.22	261 4.28	137	161	181 2.96	2.56	159 2,60	230	224 3.68	272	276	
	Minerol car	Corbon- ote (CO ₃)			0.50	0.0	00.0	19 0.64	0000	0.0	000	000	12 12 140	000	000	0.0	
	MIC	Potas- Sium (K)			5.4	3.0	5.7	4.2 0.11	3.5		3.6		5.8				
		Sadrum (No)			5.13	1.76	5.31	2.70	1.96	2.22	43 1.87	1.91	120	3.13	17 ^{t4} 7.57	100	
		Mogne- sium (Mg)			3.97	7.28	99.45	36	33		26		63				
		Colcium (Ca)			136	82 1.08	160	1000	4.69		88		7.04				
L		I C			8.18	7.8b	7.98	8	8.2ª	8.08	8.3	8.2	7.98	7.98	8.08	8.0 ^B	
	Specific	conductance (micramhas et 25°C)			1439	1135	1642	939	855	918	769	804	1481	1107	1306	1455	
		1 6			88		%	971	96	86	103	ना	130	100	103	105	
		Osso Osyo			9.6		9.5	11.6	8.	9.6	10.4	10.4	11.2	9.8	10.4	10.8	
		Temp in OF			52		40	62	20	62	99	99	72	89	09	58	
		Dischorge in cfs		Dry No flow	25 est.	20 est.	50 est.	30 est.	40 est.	100 est.	100 est.	100 est.	5 est.	15 est.	15 est.	15 est.	
		and time sempled P S.T	1962	1300	2-7	2-20	3-8	1325	5-3	9-9	7-9	8-8	9-10	10-1		1255	

o Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm d (Pb), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr +6), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Duality of Water Branch (USCS), United States Department of the Interior. Bureau of Reclamation (USBR), United States Department of Water and Power (LADWP), City of Los Angeles, Department of Water and Power (LADWP), City of Los Angeles, Department of Water Branch (MWD), Los Angeles Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated.

(†	(STA. 49)
ANGELES REGION (NO.	AT WHITTIER NARROWS
1003	RIO HONDO

	Anolyzed by i			DWR											
	Hordness bid - Coliform as CoCO _S ity MPN/mi			8.8	240	62 240	9.0	13	23	62 240	00	23	240	130	13.0
	- bid - bid - kgg n			\ 25	200	75	\ 25	\ 25	\ 25	\ 25	\$25	\ 25	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\ 25	\ \ \
	2008 N COS	m d d		205	24	17	509	205	509	156	217	8	222	971	222
	Hord Os Co	PDd		334	127	146	341	337	335	358	335	276	341	315	356
	sod -			117	77	77	39	39	3	24	04	82	39	35	38
Totol	solids solids in pam				176			720		765	245	572			
	Other constituents							$PO_{1_{4}} = 0.01_{4}$ $AB = 0.00$				$PO_{1_0} = 0.5$ $AB^{1_0} = 0.5$		(All natural flow)	
	Silica (SiO ₂)				12			না		53	킈	577			
million	Boron (B)			0.14	8	8	0,14	0.14	0.15	0.23	0.15	0.25	0.13	0.22	0.13
per m	Filo-				0.03			0.60		0.7	0.56	0.00			
ports per million equivolents per mil		(%C3)			14			0.03		9.0	2.5	4.4			
1000	Chlo-	وَ		89	0.20	0.23	89	2.54	90	3.05	96	67 1.89	94	66 1.86	2.71
ç	Sul - fote	(ane)		291	24 0.49	26	294	288 6.00	288	226	308	3.23	301		302
constituents	Bonate	1000		150	2.06	161	2.40	161	154 2.52	246	2.36	3.90	145 2.38	3.98	2.63
Mineral cor	Corbon	Soal		3.6	00	0.00	7.2	000	000	000	000	0000	0000	0000	000
ž	Potos-	3			0.10			4.8		7.2	5.2	3.3			
	Sodium (No)			106	9.7	다. 라	100	100	707	109	705	82 3.57	100	55	705
	Mogne-	(Day)			10			22.22		32 2.67	30	1.98			
	Calcium (Ca)				34			90		90	85 4.24	3.54			
	Ĭ			8.18	8.08	8.28	7.8	7.94	7.9ª	7.8ª	7.9ª	7.98	7.9ª	7.6ª	7.9a
	conductons (micrambo			1120	762	346	1070	1086	1097	1179	1152	873	1125	952	11.78
	- 1	% 20t		93	87	8	011	92	95	73	8	95	16	61.1	8
	Diseq	#dd		9.6	8	9.2	11.2	8.8	8.8	6.4	4.8	4.8	7.6	6.0	9.6
	Te ai			28	26	95	92	179	98	72	94	8	78	20	25
	Discharge Temp in off in off			148	916	181	132	1,41	153	9	520	5.2	150	3.4	38.6
	Oote ond time eompled	7.3.1.	1962	1-10	2-13 0925	3-7	4-3 0805	5-8	6-11 00800	7-6	8-2 0800	9-13 0815	10-3	11-3	12-4 0910

o Field pH.

b Laboratory pH.

c. Sum of colcium and magnesium in epm.

c. Sum of coloum and magnessum in epin. d. Iron (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived fram conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated fram analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United Stores Public Health Service.

32505-0-H 6-61 200 3PO i Mineral onalyses made by United States Geological Survey, Ouality of Water Branch (USGS); United States Department of the Internat, Bureau of Reclamation (USBR); United States Benarding County Flood Control District (SBCFCD); Metropolitan Water District of Sauthern California (WMD). Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Water Resources (DWR); as indicated.

LOS ANGELES REGION (NO. 4) PIRU CREIX NAR PIRU (SIL. 46c)

		Analyzed by i			DWR	TIL	TANE.										
-		A					ř										
		bid - Coliform" ity MPN/ml			6 4.5		9 9 7	9.11	6.2	0.0	9.00	6.0	23	62 240	13 23	13	
	- L L	bid - ity in ppm			<25	8	100	\ 25	9	<25	\ 25	\ 25	<25	\ 255	<25	\ 225	
		N C			348	10th	7+56	254	237	238	500	199	353	278	312	370	
-					538	568	670	398	369	386	328	329	ਸ਼ੁ	794	535	596	
-	- a	to o o o			32	13	- 58	25	র	8	83	23	<u>۾</u>	25	82	27	
-	£.	solved solids in ppm			1063	850	1294	069	ħ29		545		1136				
		Other constituents							$PO_{44} = \frac{0.06}{0.00}$ As = $\frac{0.06}{0.00}$				$Po_{ij} = \frac{0.07}{1}$				
		Silica (SiO ₂)			177	1	18	91	81		81		17				
c	million	Boron (B)			2,10	0.23	7.00	0,60	0.62	0.59	0.50	99.0	1.00	0.81	0.0	0.91	
alflio.	per m	Fluo- ride (F)			0.7	0.7	1.2	0.05	0.0		0.7		0.06				
ports per million	equivalents	ni- trafe (NO ₃)			0.03	7.0	3.1	4.5	3.6		0.03		0.00				
٩	equiv	Chlo- ride (C!)			5 ⁴	0.32	38	118	13 0.37	14 0.39	n 0.31	0.34	33	23 0.65	25	31	
	u.	Sul - fote (SO ₄)			524 10.91	46.6	647	344	295 6.15		5.30		541				
	constituents	Bicgr- bonate (HCO ₃)			3.24	3.22	261	137	161	181	156	159 2.60	230	3.68	272	276	
	Mineral can	Corbon- of (CO ₃)			16	0.0	000	19	00	000	000	000	12 p.40	0.0	000	0.00	
	ξ	Potos- Sium (K)			5.4	3.0	5.7	4.2 0.11	3.5		3.6		5.8				
		Sodium (Na)			118 5.13	1.76	221	62 2.70	1.96	2,22	1.87	1.91	120	3.13	17 ⁴ 7.57	100	
		Magne- stum (Mg)			3.97	89	5.45	36	33		26		63				
		Colcium (Ca)			136	82 1,08	160	100	69°4		4.39		141				
		I			8.18	7.8b	7.9ª	8	8,2ª	8.08	8.3	8°2°	7.9ª	7,98	8.08	8.08	
	Specific	conductance (micromhos at 25°C)			1439	1135	1642	939	855	918	169	804	1481	1107	1306	1455	
		1 6			88		%	911	96	8	103	211	130	100	103	105	
		Oisso			9.6		9.5	9.11	8.8	9.6	10.4	10.4	11.2	9.5	10.4	10.8	
		Temp in OF			52		64	62	70	62	9	999	72	89	09	58	
		Discharge Temp		Dry No flow	25 est.	20 est.	50 est.	30 est.	40 est.	100 est.	100 est.	100 est.	5 est.	15 est.	15 est.	15 est.	
		and time sompled P S.T.	1962	1-9	2-7	2-20 1410	3-8 1435	4-3 1325	5-3	9-9	7-9	8-8 1015	9-10 1105	10-1	11-13 0411	12-4	

b Laboratory pH. o Field pH

c. Sum of calcium and magnesium in epm.

c. sum or carcium and unspiresum in this carcium, the contract of the carcium of

Determined by addition of analyzed constituents Derived from canductivity vs TDS curves

g Gravimetric determination

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPRS); Son Bernardino Country Flood Control District (SBCFCD); Metropoliton Water District of Southern California (MMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Southern California Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TIL); or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

LOS ANGELES REGION (NO. 4) RIO HONDO AT WHITTER NARROWS (STA. 49)

	2														
	Analyzed by i			DWR											
	Coliform MPN/ml			0, 0, 0, 0,	240	240	9.0	6.2	23	62 240	99	23	240	130	13.0
	- P - V	E 00 c		<25	200	75	\ 25	\ 25	\ 25	\ 25	\$25	\ 25	\25 \25	\25 \25	\
	800	⊃ E dd		205	24	17	209	205	503	156	217	8	222	116	222
	Hardness as CaCO ₃	Total		334	127	146	341	337	335	358	335	276	341	315	356
	rent sod -	£ _		14	17	17	39	39	3	047	94	38	39	35	38
90	pevios	Edd ui			176			720		492	745	572			
		Other canstituents						$PO_{l_{\mu}} = 0.04$ $As_{\mu} = 0.00$				$PO_{4} = 0.5$ $As^{4} = 0.00$		(All naturel flow)	
	Silica	(20'5)			12			킈		55	TI.	24			
	1 8	(8)		0,14	0.08	0.08	0.14	0.14	0.15	0.23	0.15	0.25	0.13	0.22	0.13
million	Fluo-	(F)			0.03			0.60		0.0	0.03	1.1			
151	ł	(NO ₃)	_		14 0.23			0.03		9.0	2.5	4.4 0.07			
ports p		6 (C)		2.51	70.20	0.23	89	2.54	2.54	3.05	96 2.71	67 1.89	94 2.65	66 1.86	2.71
Ē	\vdash	fots (SO ₄)		291	0.49	26 26 0.54	294	2,88	888	12.71	308	3.23	301	917	305
constituents		(HCO ₃)		150	126	161	2,40	191	154 2.52	546 10.1	2.36	3.90	2.38 6	243 3.98	2.68 5
		(co ₃)		3.6	0000	0000	7.2	0.00	0.00	000	0.00	0000	0000	0.00	00.00
Mineral	1 :			mlo		00	0 /		olo				00	olo	00
					0.10			4.0		0.18	5.2	8.3			
	Sod	(NO)		106	9.7	10 E	100	100	102	100	102	82 3.57	100	5.35	1.14 1.14 1.14
	Mogn	(Mg)			0.84			27		32	30	1.98			
	Colcius	(00)			34			90		90	85 4.24	3.54			
	ž			3.1ª	8.08	8.2ª	7.8ª	7.9ª	7.9ª	7.94	7.9ª	7.94	7.9ª	7.6ª	7.98
	conductance (micrambos	at 25°C,		1120	297	346	1070	1086	1097	11.79	1152	873	1125	952	11.78
		%Sot		93	48	66	011	92	95	73	8	92	91	61.1	8
	Dissolvsd	maa		9.6	8.8	9.5	2.1	8.8	8.8	4.9	₹°8	4.8	7.6	0.9	9.6
	Temp in of			85	92	98	82	75	98	72	92	88	78	62	25
	Discharge Temp			841	916	181	132	141	153	9	220	5.2	150	3.4	338.6
	ond time	P.S.T.	1962	1-10	2-13 9	3-7 1325	4-3 0805	5-8	6-11	7-6	8-2	9-13 0815	10-3	11-3	0910

o Freld pH.

b Labaratory pH

Sum of calcium and magnestum in epm.

Sum of calcium and magnesium in Epin.

Iron (Fe), oluminum (AI), arcinic (As), copper (Cu), lead (Pb), manganese (IAn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reparted here as __0 except as shawn.

Determined by addition of analyzed constituents. Derivad from conductivity vs TDS curves.

Gravimetric datermination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Branch (USGS); San Bernardina County Flood Control District (SBCFCD); Metropolition Water District of Sauthern California (MWD); Las Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated.

32505-D-8 6-61 200 SPO

ANALYSES OF SURFACE WATER TABLE B-13

LOS ANGELES REGION (NO. $\mu)$ SANTA CLARA RIVER AT LOS ANGELES-VENTURA CO. LINE (STA. $\psi(6)$

	Anolyzad by i		DAR	DWR		5	70	DAR									
	4 4					USACI	USACL				mm			ოო	 	6.2	2.3
	bid - Coliform		00 74.5	0.0				570	23 < 4.5	13	0, 0, 0, 0,	883	62			, ,	
Tur	- piq - ly moon		<25	\ 25	12000	Tur-	Tur-	100	t < 25	047	4 < 55	0 < 25	2 < 25	7 < 25	0 < 25	V 25	3 < 25
	Hordness os CoCO _S Totol N C		1768 1338	4 1115	5 220	0 105	1 317	5 605	10 654	9 756	t 264	096 09	1012	23 1027	066 70	36 991	1465 263
				1484	395	. 270	1771	9885	986	1049	880	0921 1	3 1314	4 1323	3 1307	1336	
-0	ds sod -		#	444 6	17 5/	17 Tr	88	Э	31	34	143	32 41	143	02	143		β,
Ę.	-sib solved solves in ppm			3609	701	184	958	1746		21.58		2582		3170			
	Other constituents									$PO_{l_1} = \frac{0.03}{0.00}$ As = $\frac{0.00}{0.00}$				$PO_{1_{1}} = 0.00; ABS = 0.03$ As = 0.00			
	Silica (SiO ₂)			17	77	김	77	25		53		શ		82			
million	Boron (B)		1.74	1.84	0.26	0.26	0.40	99.0	0.70	0.96	1.06	0.65	1.42	<u>05°</u> +	1.33	1.30	1.62
1 E	Fluo- cide (F)			0.00	0.7	0.0	0.0	0.0		0.00		1.0		0.00			
اة	Ni- trote (NO ₃)			0.00	5.6	8.2	8.0	5.8		0.00		0.00		5.0			
ports p	Chio- ride (CI)		325	266	1.30	10 44	1.20	2,18	93	3.47	153	5.50	222	224	216	203	0,00
n.	Sul fore (SO ₄)		ulo.	38.34	293	214 1	1432 9.00	833 17.35 2	010	939 1 22.79 3	141	32.45	ano	36.24	010	WIV.	710
constituents	Bicar S bonote (HCO ₃) (525	7.38	3.50	2.10	3.03	342	398	357 5.85	386	366	368	361 17	387	121 06.90	246 1.04
	Corbon B		0.00	0.00	0.00	000	0000	0.00	0.00	0000	0.00	0.00		000	0000	0.00	0.00
Mineral	Potos- Co Sium (K)		olo						olo		olo		000		olo	olo	olo
			25	8.2 0.21	7 0.45	5.6	5 5.4	9.0	lou	7.6	27	8.1	102	7.6 0.19	22	- 120	10
	Sodium (No)		650 28.25	1 23.75	2.57	35	3.75	176	205 8.92	246 5 10.70	305	7 17.40	450 19.58	490	454 19.75	1,84	3.26
	Mogna- Sum (Mg)			193	27	222	45	84		123		172		20.14			
	Colcium (Co)			276	5.05	3.61	5.75	217		217 10.83		221 11.03		128			
	Ŧ		7.98	7.98	7.5 ^b	7.5 ^b	8.0b	8.18	8.0ª	8.08	7.9ª	7.5ª	7.7ª	7.7ª	7.98	8.18	7.7ª
Spacific	conductance (micromhos at 25°C)		9050	4225	1015	999	0411	2168	2252	2369	3015	3553	3953	3805	3709	3887	애디
	10		1,45	82				85	92	8	101	†	104	103	104	66	77
	Dissolved oxygen ppm %Sc		4.4	8.8				7.6	8.0	4.9	4.8	4.8	7.6	9.5	2.6	9.6	7.6
	Tamp in of		62	54	53	58		2	72	92	82	88	06	47	72	62	,8
	Dischorga Tamp in cfs in oF		9.0	п	5.33 СН	750 est.	9.56 GH	18	15	m_	2.5	8.0	4.0	6.0	8.0	1.1	6.0
	Dote ond time sampled P.S.T	1962	1-9	2-7 1210	2-8 1600	2-9 1611	2-20	3-8 1515	1220	5-3 1210	6-6	7-9	8-8 1045	9-10	10-1	11-13	12-4

o Field pH.

b Loborotory pH.

Sum of colcium and magnesium in epm.

sum at careful and magnessian in this.

11on (A.), including (A.), reparted here os 0.0 except os shown.

11on (A.), ond hexavolent chromium (G.**), reparted here os 0.0 except os shown. Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents

Grovimetric determination.

Mineral analyses made by United States Gealogical Survey, Duality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamption (USBR); United States Public Health Service (USPHS); Son Bernordino Country Flood Control District (SBCFCD); Metropoliton Water District of Southern California (WMD), Las Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); Caring Laboratories, Inc. (TIL); or California Department of Water Resources (DWR); Territorial Testing Laboratories, Inc. (TIL); or California Department of Water Resources (DWR); Territorial Loncoll Service (DWR); Territorial Laboratories, Inc. (TIL); or California Department of Water Resources (DWR); Territorial Loncoll Service (DWR); Territorial Laboratories, Inc. (TIL); or California Department of Water Resources (DWR); Territorial Loncoll Service (DWR); Territorial Laboratorial Laborator h Annual median and range, respectively. Calculated from analyses of dual cate monthly samples made by California Department of Public Health, Division of Laborataies, or United States Public Health Service.

TABLE H-13

ANALYSES OF SURFACE WATER LOS ANGELES RECION (100, 4) SANTA CLAPA RIVER NEAR SANTA PAULA (STA. 46a)

		Analyzed by i			DAR											
	4	Hordness bid - Coliform os CoCO ₃ ify MPN/mi			ਹ ਼	64.5	23	62	23	23 8.0	6.2	62,6.2	62	240	23.33	6.2
	Tur	- piq -			~25	\ 25	150	<25	೫	02T	250	35	\ \$5	~25	\ 25	\sigma
		0000	Total N.C. ppm ppm		947	98	1445	455	541	582	534	268	699	751	1 799	639
					1037	1052	659	673	780	825	410	814	046	1024	939	916
	Par-	\$ 0 m			8)	&	25	88	27	88	27	87	80	8	&	%
	Total	solids	mdd ri				1162		1482				1772			
		Other constituents							$PO_{1_{1}} = \frac{0.0}{0.00}$ As = $\frac{0.00}{0.00}$				$PO_{1_{4}} = \frac{0.03}{0.00}$ As = $\frac{0.00}{0.00}$			
		Since	1 2 015				121		윘				쎎			
	5	Boron	ê ê		8	1.00	0.63	8Z.0	46.0	0,81	0.85	0.92	0.88	7.02	16.0	0.72
million	per million	Fluo-	E.				0.03	<u> </u>	0.00	<u> </u>	_0[<u> </u>	0.0		0	
ports per million		- N	(NO3)				5.3		6.4				5.0			
00	equivolents	Chlo-	<u>(</u> 2)		2.54	2.65	50	53	38.1	72 2.03	1.60	70 1.97	2.20	2.62	8 8	8 8 8
	=	Sul -	(505)				263		721				9%			
	BTITUENTIA	Bicor -	(HCO3)		355	300	261 4.28	266	292	98.	289	300	331	333	336	338 5.54
	ardi con	Carban-	(00)		0000	0.00	000	000	00.00	0.00	00.00	0.00	00.0	8.0	000	00.0
		Potos-	(¥)				4.9		5.7				6.6			
		Sodium	(0 Z)		191	194	100	5.35	134 5,83	150	134 5.83	150	177	194 8.44	17 ⁴ 7.57	5.52
		Magne.					73		71 <u>7</u> 5.87				93			
		Calcium	(00)				7.19		9.73				224 11.18			
		I			8.0ª	7.7	7.8ª	7.9ª	7.78	7.7ª	7.5ª	8.0ª	7.88	8.1ª	7.8ª	7.9ª
	Spacific	(micromhos			2443	2431	1558	1565	1847	1951	1819	1992	2165	2381	2237	2159
			%Sof		100	55	66	120	96	93	118	108	103	907	104	3118
		Dissolved	Edd		10.0	10.9	9.5	9.11	4.8	0.00	9.6	10.0	9.5	9.6	10.0	10.8
		Temp In OF			10	25	,8	79	72	47	78	88	47	2	†9	89
		Discharge Temp			lo est.	20 est.	100 est.	100 est.	80 est.	20 est.	60 est.	30 est.	25 est.	20 est.	30 est.	30 est.
			P.S.T	1962	1-9	2-7	3-8	1500 1500	5-3	6-6	7-9	8-8 0820	9-11	1205	11-13	1330 1330

o Field pH

b Laboratory pH.

c. Sum of coloium and magnesium in epm.

c sum at calculus and magnessum in epin.

d Iran (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reported here as 0.00 except as shown.

e Derived fram conductivity vs TDS curves

Datemined by addition of analyzed constituents.

Grovimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Minaral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Survew of Reclamation (USBR); United States Geological Survey, Quality of Water Branch (USGS); United States Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated.

2255-4-6 6-61 200 SPO

8

ANALYSES OF SURFACE WATER
LOS ANGELES REGION (No. 4)
SANTA PAULA (SEA. 166)

-												_					
		Anolyzed by i		DWR	DWR	DWR	USACE	DAR									
	4	Coliform MPN/mi		64.5	9.0			2.0	0.46	6.2	<0.45	2.5	2.3	23	0.0	2.3	<0.45 <0.45
	Tur-	- pid		\ 25	\ 25	5800	Tur-	\ 25	\ 25	\ 25	\ 25	\ 25	\ 25	<25	<25	\ 25	<25
		OCO S N N DPM		149	147	95	157	152	151	167	162	156	139	139	155	155	166
				1475	394	215	277	305	307	341	386	382	371	쥝	341	377	392
-		P of		37	32	17	8	97	ন	ನ		2	32	39	38	36	34
	Totol	solids solids in ppm			999	344	0947	1485		270		596	670	658			
		Other constituents								Po ₄ = 0.00				Pol ₁ = 0.00			
		Silico (SiO ₂)			91	킈	177	77		16		15	ଶା	됬			
	miltion	Boron (B)		0.63	24.0	7.0	0.15	0.10	0.14	0.30	0.26	0.29	94,0	94.0	84.0	91,46	0.41
millio	Der 3	Fluo- ride (F)			0.5	7.00	0.02	0.01		1.1		0.0	0.0	0.7 0.0			
ports per million	equivolents	trate (NO ₃)			0.9	10.07	3.4	2.9		0.5		0.00	1.5	0.00		_	
•	Viupa	Chlo- ride (CI)		2.26	53	다. 연.	16	17 0.48	18	23	30	38	52	1.55	29	63 1.78	61
	e .	Sul - fote (SO ₄)			23.5 1.84	121	3.56	3.92		216		233 4.86	242 5.04	250			
	Constituents	Bicor - bonate (HCO ₃)		357	301	2,40	2.39	3.06	3.12	3.48	3.28	276	283	3.15	3.72	27.1 1.44	276
- [Minerol co	Carban- ote (CO ₃)		000	00	000	00	0.0	0.00	000	0.0	0000	0000	9.6	0.00	00.0	0000
:	Ē	Potas- sium (K)			0.05	0.00 0.00	1.7	1.6		1.4		2.3	2.0	1.9 0.05			
		Sodium (No)		81 5	3.70	0.89	2 1 1 1 1	31	37	1.83	27.48	66 2.87	82 3.57	93	95	4.31	93
		Mogne- sum (Mg)			41	0.80	1.8	2.11 2.11		2.14		3.90	3.37	32 2.63			
		Calcium (Ca)			64°-	3.50	3.73	3.99		95		3.74	81 4.04	3.59			
		I E		8.08	7.8ª	7.9b	7.9b	7.9ª	8.18	8.2ª	8,18	7.7B	8.08	8.18	8.1	7.7ª	7.3ª
	Specific	(micromhos of 25°C)		1317	1041	061	909	702	169	801	828	951	1066	96	1039	0111	0411
				821	79			108	977	109	011	お	100	127	242	971	ा
		Disso Osy Mdd		७•टा	8.8			11.2	12.0	10.0	10.8	8.8	9.5	10.8	12.8	9°n	10.8
		Temp in of		82	52			8%	82	8	62	99	8	92	72	62	62
		Dischorge Temp		ري د	6.5	25.4	506	₹	57	179	π2	5.1	1.1	2.6	1.9	1.9	3.6
	Dote	sompted P.S.T	1962	1-9	2-7	1000	2-20	3-8 1300	1530	5-3 0915	6-6	7-9 0820	8-8 0730	9-11	10-1	1340	12-4 1430

o Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

c. Jum or Lanctum and integration in Epin. (Cu), lead (Pb), manganese (Un), zinc (Zn), and hexavalent chromium (Cr⁺³), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

g Gravimetric determination.

h. Amust median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Lobaratories, or United States Public Health, Division of Lobaratories, or United States Public Health

2255-D-8 6-61 200 Mineral analyses made by United States Geological Survey, Duality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USBR); United States Geological Survey, Duality of Water Branch (USBCFCD); Metropolition Water District of Southern California (AWD); Las Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Water Branch (LADPH); City of Las Angeles Survey, Department of Water Resources (DWR); United takes Agricultural Consultants and Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); United takes Agricultural Consultants and Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); United takes Agricultural Consultants and Laboratories (USACL) as Instanted

ANALYSES OF SURFACE WATER LOS ANGELES RECION (NO. 4) SESPE CREEK NEAR FILLMORE (STA. 464)

	Analyzed	by 1			DWR	DWR	TAL	DAR									
	Coliform	S n ppm MPN/mi			23	9.0		24 0.0	9.0	6.5	6.2	1.3	6.2	9.0	\$4.0°	9.0	0 0 0 0
	- piq	t pour				<25	550	\ 25	\ 25	\ 25	1000	<25	<25	₽	\ 25	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	<25 <25
	9880	S Z			277	254	929	762	255	251	237	231	244	368	360	320	331
			€dd		961	175tt	046	† <u>7</u> 4	415	904	351	369	602	502	064	1462	184
	Cen	Pos E			35	32	8	16	19	23	53	었	72	<u>ਲ</u>	<u>R</u>	33	33
To o	- 5	solids in ppm				789	1495	735		069		ħ69	1120	1061			
		Other constituents								$PO_{l_{k}} = 0.00$ As = 0.00				Po ₁₁ = 0.05			
		Silico (SiO ₂)				1.5	킈	[22		81		킈	H	의			
2		Boran (B)			111-0	1.56	0.71	0.30	0.84	8	0.85	1.22	1.24	1.42	1.74	1.75	1.82
million		Fluo- ride (F)				1.7	0.88	0.7		0.60		1.1	1.2	1.6			
parts per million	1	trate (NO.)				0.00	16	2.3		0.5		0.00	1.5	4.00			
0 0		Chlo- ride			2.79	58 1.64	15	15	18	24	35	1.38	56 1.58	67 1.89	2.12	2.54	2.74
ĕ		fota (SO.)				355	868 18.06	348		313		318	576	9.99			
constituents		Brcor - bonofs (HCO.)	,		122	3.40	347	3.60	3.20	3.00	139 2,28	168	3.20	2.63	159	173 2.84	3.00
Mineral con		Carbon			0.16	000	000	00	00.0	0.0	00.0	00.0	000	000	00.00	000	8
M		Sium (X)				2.9	99.0	2.5		2.4		3.7	4.35	1,27			
		Sodium (No)	1		121	3.50	2.00	41 1.78	2.00	2.48	66	3.43	100		104	105	12.17
		Mogne- sium (Mg)				41 3.39	10.58	33		34 2.79		35 2.89	3.37	3.20			
		Colcium (Co)				102 5.09	164	136		107 5.34		84.	173	137			
	7	<u>.</u>			B.0.8	8.2ª	7.6b	8.1 ⁸	B.3ª	8.2ª	8,38	8.1ª	7.8ª	7.7B	8.2ª	8.1ª	7.9 ⁸
	Spacific onductonce	(micromhos of 25°C)			1456	1160	1967	1004	922	996	934	1031	1499	1321	1328	1307	1386
					100	8		106	16	102	118	102	3	8य	154	146	159
	Dissolved	osygen			10.0	10.0		11.2	9.2	9.2	10.4	8.8	9.6	10.4	13.6	14.41	15.6
	Тетр	i o			9,	25		26	9	22	72	47	47	8	72	9	29
	Dischorge Temp	in of			5.5	র	750 est.	350	100 est.	54 est.	2h	5.5	7.0	9.0	2.0	9.0	Q.
	0010	sompled P S.T.		1962	1-9	2-7 1035	2-20	3-8 1400	14-3 1400	5-3 1050	6-6	7-9 0940	8-8 0910	9-10	10-1	11-13	1220

o Field pH.

32505-D-H 6-61 200 SPO h Annual medion and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service (USPHS); Son Bernardina County Fload Control District (SBCFCD); Metropolitan Water District of Southern California (WWD), Las Angeles Department of Water and Power (LADMP); City of Las Angeles, Department of Water Resources (DWR); as indicated.
Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); at California Department of Water Resources (DWR); as indicated.

b Loboratory pH.

c Sum of calcium and magnessum in epm.

Sum of calcium and magnessium in spin.

Iron (F., oluminum (A1), orseit (As), capper (Cu), lead (Pb), manganese (IAn), zinc (Zn), and hexavalent chromium (Gr.*6), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

ANALYSES OF SURFACE WATER LOS ANGELES REGION (NO. 4) VENTURA RIVER NEAR VENTURA (STA. 61) TABLE 8-13

	_																
		Anolyzed by i		DWR	DWR	USACL	TIL	DWR									
	4	bid - Coliform ity MPN/ml		Λ.μ.5 Λ.μ.5	<0.45 <0.45 <0.45			0.0.	53	0, 0, ພິພໍ	23	6.2	88	6.23		23	62.9
	Tur	- pid -		\ 25	\ 25	Tur-	700	<25	\ 25	\ 25	<25	<25	1500	<25		\ 25	<25
		N CO3		235	0	8	198	349	278	247	71/2	247	254	24/2		236	248
		Totol PPM		119	267	374	536	558	198	177	464	88	530	151		88	507
	Par	sad -		77	13	19	13	ನ	23	8	ส	ส	8	23		প্র	83
	Total	solved solids in ppm			764	ή899	1485	924		160			870	760			
		Other constituents												Po ₁₁ = 0,00			
		Silica (SiO ₂)			81	켍	7	27		ଧା			25	ध्य			
	io.	Baran (B)		0.70	0.55	0.30	0.29	64.0	0.50	0.50		9,16	75.0	25.0		0.52	0.46
Ē	per million	Flua- ride (F)		01	0.02	0.6	70.0	9.0		0.76			99.0	0.7		<u> </u>	01
parts per	equivalents	trate (NO ₃)			9.5	15	11 0.18	<u>18</u> 0.29		910			2.1	5.4			
0	equiv	Chia- ride (CI)		86	72 2.03	39	26	74	0.39	23	23	1.44	63	53		1.35	1.55
9	- 1	Sul - fate (SO ₄)			272 5.68	235	3.66	344		263 5.48			%; ;	282 5.83			
9,000	STILLEN	Bicar- banate (HCO ₃)		459	334 5.48	3.30	166	255 4.18	1.40	273 4.48	304	294	337	255 4.18		307	316
N Contract		Carban- ate (CO ₃)		00.00	00.00	00.00	00.00	130	000	00	000	00.00	00.00	00.00		0.00	0.0
N N	LI M	Patas- sium (K)			2.6	3.3	40.09	3.8		0.05			0.12	3.8			
		Sadium (Na)		3.96	67	1.80	33	86.	3.05	2.44	2.57	2.57	66	64 2.78		63	64 2.78
		Magne. Sium (Mg)			1.86	2.19	30	45 3.72		36.2			35	3.13			
		Calcium (Ca)			11.5	106 5.28	3.45	7.44		130			156	118			
		I		7.2ª	7.3ª	8.1 ^b	7.1 ^D	7.9ª	8.0ª	7.7B	7.3ª	7.3ª	7.8ª	8.1		7.9ª	7.5ª
	Specific	(micramhos of 25°C)		1458	1188	830	652	1300	0411	1082	1128	1102	2421	1065		860	1173
		1 = 1		52	8			779	77.	011	29	75	85	168		97.8	011
		Dissalved axygen ppm %Sc		0.9	10.01			0.51	11.2	10.8	4.9	7.2	7.6	14.0		9.6	10.8 1
		Tamp in oF		9	09	19	52	28	62	62	19	179	22	78		62	62
		Deschargs Tamp		0.2	4.0	436	1492 est.	16	8.1	7.9	7.2	6.3	2.0	2,1	Pond No sur- face inflow	2.6	0.5
	(ond time sampled P.S.T	1962	1-9	2-6 1500	2-16	2-19 1830	3-8.	4-5 0850	5-3	6-8	7-9	9-6	0-11 17-6	10-2	11-13	12.5

o Field pH

b Labaratary pH.

c Sum of calcium and magnesium in epm.

Sound redictions and magnessian in spin.

I Iran (Fe), aluminum (A1), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reparted here as $\frac{0.0}{0.0}$ except as shown

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents. g Gravimetric determination

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Water and Power (LADMP); City of Los Angeles, Department of Water and Power (LADMP); City of Los Angeles, Department of Water and Power (LADMP); City of Los Angeles, Department of Water Resources (DWR); United States Aericultural Consultants and States (USACL) as indicated associated as section and Calaboratories, Inc. (TIL); or California Department of Water Resources (DWR); United States Aericultural Consultants and States (USACL) as indicated associated as section as an example of the Consultants and States (USACL) as indicated associated associated as a section associated as a section Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

32505-0-8 6-61 200 SPO

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ANALYSES OF SURFACE WATER

TABLE B-14

CENTRAL VALLEY REGION (NO. 5) AMERICAN RIVER AT FAIR OAKS (STA. 224)

		Anolyzed by i		USGS															
		bid Coliform Analyzed																	
	1	- piq - it i it i																	
		50 Z		0	2	. 	~	-	m	OI.	٦	m	0	0	0	1			
L				31	33	8	28	<u>۾</u>	31	25	22	22	16	16	17	17			
L	0	P 00 0		22	21	21	8	18	18	8	25	19	77.2	24	51	55			
L	Total	solved solids in opm		558	508	528	50 ⁸	568	548	884	8997	10 g	39 ⁸	348	408	36 ^f			
		Other constituents														Fe 0.00			
		Silico (SiO ₂)														 			
٤	million	Boron (B)	_											91	0:0	0.0			
millie	per m	Fluo- ride (F)														0.2			
parts per million	equivalents	trate (NO ₃)														4.5			
	6901	Chlo- ride (CI)												0.08	2.1	0.03			
	ut 1	Sul - fote (SO ₄)														0.0			
	stituent	Bicor- banote (HCO ₃)		38	35 0.57	32 0.52	30	28 0.46	34	28	24 0.39	23	21 0.34	21	24	20	-		
	Mineral constituents	Corbon- ote (CO ₃)		0.00	0.0	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0 0	00.0			
	Ž	Potos Sium (K)														0.5			
		Sodium (No)		4.0	4.1 0.18	3.7	3.3	3.1	3.3	3.2	3.2	0.10	0.10	0.10	0.09	2.3			
		Mogne- stum (Mg)		2.7	2.6	2.8 0.23	0.50	0.12	0.0	0.0	0.08	2.2 0.18	0.0	0.12	0.9	0.10			
		Calcium. (Co)		8.1	9.1	7.5	7.3	9.6	11 0.55	8.8 0.44	6.8	5.2	5.5	0.20	5.4	0.24		-	
L		Į.		1.6	7.3	7.1	7.3	7.2	7.4	7.2	7.4	7.1	7.4	7.3	7.5	7.0			
	Specific	(micrombos of 25°C)		80	80	92	70	74	75	62	96	67	94	45	74	917			
		Dissolved osygen ppm %So																	
		Eo E															linued		
		Dischorge Temp in cfs in oF Avg. MD		349	422	14760	7130	0069	5380	0719	1,580	2570	2090	1	3530	2650	Ofscontinued		
		sompted P.S.T.	1962	1/1-31	2/1-9	2/10-16	2/17-28	3/1-31	4/1-15	4/16-30	5/1-8	5/9-31	6/1-30	7/1-31	8/1-31	9/1-30	10/		

b Loborotory pH

c Sum of colcium and magnesium in epm.

d Iron (E.), aluminum (AI), orstand (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr *5), reported here as 0.00 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Geological Survey, Quality of Water Branch (USSS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Branch (USSS); United States Department of the Interior, Bureau States Geological Survey, Quality of Water Branch (USPR); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Water and Power (LADWP); City of Los Angeles, Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

	Dez.		æ					 				
	Anolyzed by i		USBR									
	s bid - Coliformh											
	Pid - ty											
	2 0	z č										
	HOH	Totol						 		 	 	
-	Solved sod -	٤		12	13	57	- 2	 	 			
1,5		6 60 E		87	70	78	647		 	 	 	
	Other constituents	- 1										
Hion	Boron Silico	(2 016) (a)									 	
millian	Fluo-	(F)										
parts per millian		(NO3)		0.0	0.0	0.0	0:0					
parts pe	Chlo-	-		7.8	1.4	2.1	0.7					
5	Suf -	\rightarrow		6.2	8.2	6.2	2.4					
aral constituents in socioalents per mi	rcar –	HCO ₃)		56	32	8	21					
ral cons	Potos- Carban-	(CO3)		0.0	0.0	0.0	0.0	_	 	 		
Mineral	Potos-	Ŝ		0.0	0.8	0.0	0.0	 		 	 	
	Sodium	6		2.1	2.1	2.1	2.1				 	
	Magne-	(Mg)		2.4	2,4	0.73	1.2					
	Calcium Magne-	(60)		9.6	7.2	4.0	8.					
	I	م		7.4	7.0	6.7	7.1					
	Specific conductance (micrambos at 25°C)			72	7.7	CU #	77					
	Disselvad	ppm %Sot		27	22	8	89					
	Ten in											
	Dischorge Temp											
	Date and time sampled	P.S.T	1962	1/4	1000	7/3	10/2					

e Derived from conductivity vs TDS curves

b Lobarotory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsentic (As), copper (Cu), lead (Pb), monganese (Mn), zinc (Zn), and hexavolent chromium (Cr*5), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of analyzed constituents.

g Gravimetric determination.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior of Reclamation (USBR); United States Department of Water and Power (LADWP), City of Los Angeles, Department of Water District (SBCFCD); Metropolition Water District of Southern California Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL): or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

ANALYSES OF SURFACE WATER CENTRAL VALLEY REGION (NO. 5) AMERICAN RIVER AT NIMBUS DAM (STA. 22a) TABLE 8-14

			_	_														
		Anolyzed by 1			uscs													
	4	Hordnass bid Coliform os CoCO ₃ 117 MPN/mi			Medien 62. Maximum	>7000. Minimum 0.62												
r	1 5	- ×-	1		N .	-3	15	01	#	CV .	CV .	6	~	9	∞	m		
-		S C	E		7	9	m	4	~	-	0	٦	CV .	17	#	59		
		OS Co	E		64	9	82	31	8	27	17	17	82	52	25	82		
	Par	sod -			ង	77	15	22	16	16	23	R	18	14	15	15		
	Totol	solved solids			787	64°	47	52 ^e	38.	456	29 ^e	37 ^e	1,1 f	85	39°	131e		
		Other constituents							ABS 0.0; PO _{1, 0.05}				Ae 0.00; ABS 0.0; Pol, 0.05					
		SHICO (SIO ₂)							না				21					
-	llion	Boron (B)			<u> </u>	0:0	0.0	0:0	0:0	0:0	읭	0:	ी	0:	%	0.0		
m. Hio	per million	Fluo-	<u> </u>						0.2				0.0					
ports per million		roje troje	(NO ₃)						0.00				0.0					
8	equivolents	Chlo-	(3)		0.31	8.1	3.0	4.8	0.07	5.5	2.6	2.6	5.0	0.51	1.8	29		
	Ē	Sul -	(80%)						3.0				0.05					
	constituents	Bicor- bonote	(HCO ₃)		14e 0.75	37	30	33 0.54	23	25	21 0.34	20	24 0.39	42	26	96.0		
		Carbon -	\neg		0.0	0.0	0.00	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0	0 0		
	Mineral	Potos- C	ξ.						0.02				0.0					
		Sodium (No)			3.1	2.9	2.2	0.18	1.9 0.08	2.4	0.10	3.1	2.3	0.17	2.1	6.1		
		Mogns-	(8Mg)						0.00				0.12					
		olcium (Co)			0.99°	0.79c	0.56°	0.62°	6.4	0.54e	0.34c	0.34e	6.5	1.02	0.50°	1.55e		
l	æ	F.		_	7.4	7.3	7.5	7.5	7.1	6.9	7.1	6.8	7.1	7.1	6.9	7.7		
	Specific	Conductonce (micromhos			111	96	71	78	84	88	গগ	95	82	128	R.	196		
-		D	%Sot		ना	115	111	105	105	113	8	101	66	104	87	η6		
		Dissolvad	% mdd		12.5	12.7	12.8	11.3	10.9	10.8	6.6	9.5	9.1	6.6	0.6	6.6		
1				٠	51	25	611	75	57	19	3	8	19	79	57	99		
		Dischorge Temp			333	.044	7420	2540	3540	2130	2980	3400	2750	1330	2930	5460		
		Oots ond tims sompled	P.S.T.	1962	1/9	2/8	3/15	1,3	5/10	9/9	7/5	8/9 0930	9/11	10/2	11/7	12/3		

o Field pH

b Loborotory pH.

c. Sum of colcium and magnesium in opm.

d. Iron (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown. c. Sum of coleium and magnesium in com.

e Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Lobaratories, or United States Public Health Service (USPHS); San Bernardina County Flood in Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Branch (USGS); United States Department of Water and Power (LADWP); City of Los Angeles, Department of Southern Colifornia (WWD); Los Angeles Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Labaratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

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CENTRAL VALLEY REGION (NO. 5) AMERICAN RIVER AT SACRAMENTO (STA. 22)

		Anglyzed by i	USGS													
		ity MPN/mi	Median 62.	Maximum 7000, Minimum	0.63									-		
	- 15	ity ity nppm	a	Q	30	9	10	М	m	5	-	01	10	a		
		N CON	М	9	m	5	CV .	2	0	н	0	0	0	N		
	1	oe CoCO ₃	33	34	88	33	8	19	17	16	17	18	22	23		
	Per-	Sod -	14	17	15	16	16	17	23	27	19	23	16	19	-	
	dis-	solved solids in ppm	57e	58e	118 e	53°	39 ^f	31e	31e	386	32 ^f	37e	38	μle		
		Other constituents					As 0.01; ABS 0.0; Po _t 0.05				Ae 0.00; ABS 0.0; PO _{th} 0.10					
		Silico (SiO ₂)					킈				리					
1	5	Boron (B)	0:0	01	0:0	0.0	0:	0.0	0:0	0:0	0:1	0.0	0:0	0:0		
million	per million	Fluo- ride (F)					0.1				0.1					
		rrote (NO ₃)					0.00				0.00					
ō d	equivolents	Chlo- ride (Cl)	3.5	5.1	0.00	3.5	2.5	1.5	2.2	3.0	0.03	0.11	1.8	2.8 0.08		
Ē	-	Sul - fote (SO ₄)					0.08				0.0					
tituents		Bicor- bonofe (HCO ₃)	37	34 0.56	30	34	22 0.36	21 0.34	21	18	21 0.34	22 0.36	24 0.39	26 0.43		
Mineral constituents		Carbon - (CO3)	00.0	0.0	00:0	00:00	0.00	00:0	00:0	0.00	0.00	000	0.0	0 0 0		
M	ŀ	Potos- C Sium (K)					0.0				0.5		_			
	-	Sodium (NO)	0.11	3.3	0.10	2.9	0.08	1.8	2.4	2.8 0.12	0.08	2.6	0.08	0.11		
	-	Magne- Sium (Mg)					0.10				0.10					
		olcium (Ca)	299.0	369·0	0.56c	99°0	6.0	0.38°	0.34c	0.320	0.23	0.36°	0.43c	0.46°		
	ač ,	H d	7.5	7.7	7.3	9.0	1:1	6.9	7.7	7.0	7.7	7.3	7.0	7:3		7
	Specific	(micromhos	80	81	8	7/1	84	77	14.3	53	£ 4	25	54	%		
		1 6	103	104	101	120	103	8	96	011	91	93	8	16		
		oxygen ppm %Sc	11.7	12.1	11.5	12.5	10.8	7.6	9.5	8.6	8.6	9.8	9.1	6.5		-
	1	Te or	20	84	50	57	26	- 29	19	R	69	29	57	55		
		Dischorge Temp	Not													
	900	sompled P.S.T.	1962 1/8 1500	2/6 1530	3/5	1510	5/10	9/9	7/5	8/8 1430	9/11	10/2 0705	0060	12/3		

Laboratory pH.

Sum of calcium and magnessum in epm.

Sum of colcium and magnessum in epm.
Iron (Fe), oluminum (AI), areaic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as 0.00 except as shawn.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination

Mineral analyses made by United States Geological Survey, Duality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Beach, Service (USPHS); Son Bernardino County Flood Carrier (SRCFCD); Metropolitan Water District of Sauthern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Water Resources (DWR); as indicated.
Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); at Colifornia Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5) AMERICAN RIVER, MIDDLE FORK NEAR AUBURN (STA. 22b)

	Anolyzed	by 1		USGS								_					
	bid - Coliform	E /N.A		Median 6.2 Maximum	620. Minimum	}											
	- piq	m d d u		~	9	m	2	α0	m	CV.	2	5	Φ	m	77		
	Hordnsss	N Z E		н	N	7	0	0	0	0	0	-#	m	2	7		
				56	22	56	14	10	10	16	59	34	0,7	59	17		
	Cent	# n		17	8	15	72	22	8	18	56	17	8	17	23		
2,0	des-	salids in ppm		149e	39	1496	26°	245	19 ^e	31e	57 ^e	28 8 80 8	73 ^e	52e	34e		
		Other constituents						9.0 Pol, 0.00				As 0.00; ABS 0.0; Pol, 0.05					
	_	(SiO ₂)										13					
nc ncillo		Boron (B)		0.	0:0	000	0:0	%	<u> </u>	%	%	잉		0:0	9		
million		ride (F)						0.00				0.1					
		trate (NO ₃)						0.0				0.00					
parts pe		- ide (CI)		3.5	3.6	2.1	2.2	2.5	0.2	3.2	0.11	4.4	6.0	2.2	0.03		
Ē		fate (SO ₄)					-	1.0				6.0					
tituents		bonate (HCO ₃)		30	24 0.39	30	17 0.28	0.20	13 0.21	20	36	37	45.0	33	20		
Mineral constituents		Carbon- ote (CO ₃)		0.00	0.0	0.00	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
Mine		Sing (K)						0.3				0.02					
		Sodium (No)		0.11	2.5	2.1	0.00	1.4	1.2	2.4	4.6	3.2	4.7	2.7	2.4		
		Srum (Mg)						0.0	-			2.3					
		alcıum (Ca)		0.53°	0.44c	0.52°	0.28°	3.2	0.20c	0.31°	0.58°	9.9	0.800	0.58°	0.34°		
,	CAID E			7.3	7.3	7.7	7.4	7.2	6.7	7.2	7.4	7.4	7.5	7.3	7.0		
	Specific	at 25°C)		8	54	19	36	88	92	27	42	87	100	7.1	L+1	·	
		Sol		76	100	100	66	107	107	%	901	107	101	100	105		
	Dissolved	oxygen		12.8	12.0	11.6	11.5	11.7	11.0	8.5	80.00	9.1	9.1	10.8	12.1		
	Temp	 		39	91	89	82	53	82	73	77	75	69	75	67		
	Dischorge Temp	e c		218	859	988	2670	4 120	2150	0.27	87	143	14.3	081	2000		
	Date	psiquos P S.T	1962	1/9	2/8 0940	3/15 1125	0630	5/10 1440	6/6	7/5	8/9	0711	10/2	11/7	12/3		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm

c. Sum of calcium and magnesium in epm. dead (Pb), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived fram canductivity vs TDS curves

Determined by addition of analyzed constituents Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division at Loboratories, or United States Public Health Service (USPHS); San Bernardino County Flood Canter and by United States Geological Survey, Quolity of Water Branch (USCS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Canter (SBCFCD); Mercapoliton Water District of Souther California (WMD), Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Los Angeles, Department of Public Health (LADPH); Terminal Testing Labaratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)
AMERICAN RIVER, SOUTH FORK NEAR LOTUS (STA. 22c)

	7	9																
		Anolyzed by i			USGS													
	£	ity MPN/ml			Median 50.	7000. Minimum												
_	1.5	- pin			7	15	30	20	Φ	m	CV	50	ζ.	10	C	4		
	<u> </u>	s 0	D E		0	CV .	m	0	0	0	0	7	0	0	7	.::		
			ppm ppm		54	22	25	17	80	10	13	21	13	16	23	547		
	Par	e de la			8	20	17	28	88	56	8	25	21	56	24	17	 	
	Totol dis-	solved	andd an		46 _e	45e	,65	31	24T	21 ^e	29 ^e	31e	28 ^f 318	34°	140e	82	 	
		Other constituents							PO ₁₄ 0.00				8.4 As 0.00; ABS 0.0; Pol, 0.15					
		Silico	200						긔				8.4				 	_
	Hion	Boron	9		0:	0:1	9	0:0	0:	0:0	0:0	0.0	[]	0.1	0:0	0.0		
millio	Der D	Fluo-	(F)						0.0				0.1					
ports per million	equivolents per million	Nin trote	(NO3)						0.00				0.00					
bd	equivo	Chlo-	(ij		3.8	3.3	3.4	3.2	0.05	0.5	3.5	2.0	2.6	4.7	2.5	2.3		
		Sul -	(80%)						0.6				000					
at continue	111001118	Bicor-	(HCO ₃)		0.18	24 0.39	35 0.57	18 0.30	13 0.21	14 0.23	17 0.28	1 ⁴ 0.23	18	20	24 0.39	50 0.82		
Mostol	- 1	Corbon-	(co ₃)		0.0	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0		
M		Potos-	Έ						0.2				0.5					
		Sodium	(NO)		2.7	2.6	2.9	2.5	0.07	0.07	2.5	0.08	1.7	2.6	2.9	0.18		
		Mogne-	(Mg)						0.03				0.0					
		Colcium	(0)		0.47c	0.41c	0.64	0.28°	2.8	0.20c	0.26°	0.24c	5.3	0.32c	0.42c	0.890		
	65	녈			7.2	7.5	7.7	7.5	7.1	6.9	7.3	7:0	7.3	7.2	7.3	7.3		
	Specific	(micromhos			63	82	76	04	25	27	82	9	8	44	52	901		
-			%Sot		8	100	100	103	103	102	76	104	104	100	104	%		
		Dissolved	o mqq		12.8	12.0	11.5	7.11	11.11	10.4	9.8	9.0	9.5	9.7	11.2	11.3		
-			1		70 7	94	67		75	 %	- 12	73		63	54	-67		
		Dischorge Temp			147	208	002	1680	5,0995	1450	394	804	231 (381	257	988		
		ond time	P.S.T.	1962	1/9	2/8	3/15	1100	5/10	6/6	7/5	8/9	9/11	10/2	11/7	12/3		

o Field pH.

b Laborotory pH.

c. Sum of colcium and magnesium in epm.

d. Iron (Fe), olumnium (A1), orseric (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁶), reported here as 0.00 except as shawn. c Sum of colaium and magnesium in epm.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Branch (WMD), Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Lap Beach, Department of Public Health (LADPH); City of Lap Beach, Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5)

ANTELOFE CREEK NEAR MOUTH (STA. 88c)

		Anolyzed by i	usgs											
	£	bid - Coliform Analyzed ily MPN/ml by i												
	Tur	- prd -	c _o	35	্ৰ	13	15	50	00	5	17	30	^	ī.
		S O E E	0	0	0	0	*	-3	9	m	0	m,	0	0
		Hordness os CaCO ₃ Total N.C. ppm ppm	78	32	69	43	277	88	81	47	74	91	100	17
	P	sod -	72	17	18	450	53	23	2.1	32	35	33	22	ಜ
	Fatal	solved solids in ppm					98t				172 ^f 1866			
		Other canstituents					PO _{1,} 0.10				PO _t , 0.50			
		(Silico (Silico					128				M _M			
	lion	Boron (B)	0:0	0:0	0:1	0.1	0.2	0	0.4	0.5	0.5	1.0	0.0	0
11:00	per million	Fluo- ride (F)					0.0				0.1			
STA. OOC)	5	Ni- trote (NO ₃)					0.00				0.05			
TC) HI	equivolents	Chlo- ride (CI)	0.28	3.5	5.0	0.23	8.0	12 0.34	14 0.39	19 0.54	0.59	27 0.76	9.6 0.27	0.19
EAR MOD	<u>c</u>	Sul - fote (SO ₄)	710	(1)	040	ω(ο	0.25	AIC.	7,0	710	0.37			
ANTELOPE CREEK NEAR MOUTH (STA. OCC	constituents	Bicar S bonata (HCO ₃)	1.64	40 0.00	1.34	52 0.85	0.79	102	1.51	986	1.51	107	134 2.20	1.64
SHOTEL		Carbon - B	0000	00.00	0.00	0.00	00.0	00:0	0.00	00.0	00.00	00.00	000	00.0
A P	Mineral	Potos- Ca sium (K)	oló	olo	olo	olo	0.00	olo	olo	olo	5.0	olo	010	olo
		Sodium (No)	81	13	- 2 28		8.6	12 0.52	14	16	0.83	210.01	13	0.4.0
		N) (6	111	3.0	6.5	10		0 12	710	915	0.78	200	게0	- 3/0
		Mogns-	2	٤.		80	6.4					- E	Po	[m
		Colcium (Ca)	1.560	0.04	1.30	0.85	2.2	1.750	33-1-62	1.48	1 114	1.82	200.2	en F:
		PH a/s	7.2	15	7:	7.5	7-1	1.0	7.3	7.6	7:7	7.18	7.1	<u>⊢</u> 100
	Spenific	(micromhas at 25°C)	197	75	156	133	132	225	232	225	248	287	241	177
		1 7	87	93	89	46	8	71	20	119	63	82	88	66
		Dissolved oxygen ppm %Sc	10.5	10.5	10.1	7.6	0.6	6.1	7.5	₹. 5	8.	7.8	φ. φ.	10.9
		Temp in of	45	20	20	58	09	75	75	833	89	69	09	64
		Discharge Temp in cfs in of Est. by	10	250	10	100	10	10	00	1.0	50	50	10	-
		and time sampled	1	2/12	3/12	1020	5/1	6/2)	1/2	8/1	9/11	10/01	11/1	1150

-149-

b Laborotary pH

e. Sum of calcium and magnesium in spm. d. Iran (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁸), reported here as $\frac{0.0}{0.00}$ except as shown. c. Sum of calcium and magnesium in epm.

e Derived from canductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropalitan Water District of Sauthen California (AWD); Los Angeles Department of Water Resources (DWR); as indicated.

Public Health (LBDPH), Terminal Testing Lobaratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Labaratories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5)

ANTELOPE CREEK NEAR RED BLUFF (STA.

F		-	173													
			Analyzed by 1		USGS											
		4	os CoCO ₃ Ity MPN/ml													
		1 5	y da		c ₀	15	10	m	Q	н		m	.7	н	5	9.0
1			0	Z E	0	-3	0	0	0	0		0	0	0	0	0
				Total ppm	61	36	38	37	30	7:17		58	09	61	- 65	1.41
		Pari	- pos		28	15	23	28	54	59		33	32	30	53	28
		Totol dis-	solved	E dd					f89				126 ^f			
			Other constituents						PO _{1, 0.00}			Tot. Alk. 85	PO1, 0.00			
			Silico	2					27				37			
		noi	Boron	9	0.0	0:0	0.1	0:3	0:0	0.5		0.5	0.1	0.5	0:0	0.0
Se)	million	Der mil	Fivo-						0.0				000			
STA - 82	ports per million	equivolents per million	Ni- trote	(NO3)					0.00				0.0			
BLUFF (ă	equivo	Chlo-	(CI)	0.31	0.04	3.8	3.2	4.0	6.0		0.31	9.5	12 0.34	7.8	0.12
CAR RED	ē	- 1	Sul -	(\$0\$)					1.0				0.05			
CREEK N	atmentitue.		Bicar- bonote	(HCO ₃)	86	39	86.0	5 th 0.89	42	64 1.05		1.28	20 1.48	32	1.43	1.03
ANTELOPE CREEK NEAR RED BLUFF (STA. 88e)	Montal con		Corbon-	(CO3)	00.00	00.00	00:00	0.00	00.00	00.00		4 0.13	00.00	00.00	00.00	00.00
A	Mo		Potos-	Ξ.		•			1.1				0.03			
			Sodium		0.48	3.1	5.2	62.0	4.6	8.2		13	13 0.57	12 0.52	0.48	0.32
			Mogne	(Mg)					3.6				0.00			
			Colcium	(2)	1.21	0.72	0.76	0.74°	0.30	0.88°		1.16°	12	1.23°	1.18	<u>0.82</u>
				a/b	8.0	7.5	7.7	2.0	7.5	8.1		8 8	8.2	88.0	8.1	8.0
		Spacific	(micromhas		164	81	101	66	81	123		163	170	168	162	011
				%Sot	96	56	66	16	100	66		112	114	86	100	100
		è	Dissolved	% wdd	11.2	11.0	12.0	10.1	10.5	77.		0.6	10.0	9.5	10.3	11.8
		1	Temp in oF		<u>π</u>	84	5†2	57	56	92	PLED	81	72	99	80	<u>-</u> 7
			Dischorge Temp		<u></u>	995	138	111	126	84	NOT SAMPLED	56	21.2	78	177	g,
		****	sand times	P.S.∓. 1962	1/12	2/12	3/12	1055	5/10	6/20	7/2	8/1 1330	9/11	10/1	11/1	12/7

o Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm

E. Sum of calcium and magnesium in epin. If the sum of the sum of

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves

h Annual median and range, respectively. Calculoted from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service. g Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Water and Power (LADWP), City of Los Angeles, Department of Southern California (WMD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

BATTLE CREEK NEAR COTTONWOOD (STA.

CENTRAL VALLEY REGION (NO. 5)

	_													
		Anolyzed by i	USGS											
		bid - Caliform ity MPN/mi												
	Total	- bid - ty m ppm	23	50	10	٠	CU	10	CU	10	ກ	10	U	m
		Hardness os CaCO _S Toto! N C PPm PPm	0	0	С	0	0	0	0	0	0	0	ĵ	-
		Hard os Co Totol PPm	59	31	67	43	04	77	12	25	09	52	50	45
	Q	ad -	22	23	23	25	24	23	25	56	70	25	53	- †
	Total	solved solids in ppm					33%				125 ^f 133 ^g			
		Other constituents					PO _{1,} 0.00				PO ₄ 0.15			
		Silico (SiO ₂)					3				45			
	million	Baran (B)	0.0	0:0	0,1	0.3	0.0	~ [0.0	0.0	0.0	0.2	əl	0.0
7	per mil	Flua- ride (F)					0.0				0.1			
(STA . 88b)	ants p	Ni- trate (NO ₃)					0.00				0.07		· ·	
IS) GO	equivolents	Chlo- ride (Cl) (0.12	0.03	0.00	1.2	0.04	1.3	1.8	0.12	2.5	2.8 0.08	0.03	001
MI-I-ONMC	1			40	alo	40		નીરું	નીર્ગ	40		oilo	취증	2.0
FAR C	nts in	- Sul - fate (SO ₄)			- In		3.4	l-a			1.0			
KEEK	constituents	Bicar- banate (HCO ₅)	82	12 0.69	72	63	59	56 1.08	74	1.38	32	1.51	1.33	1.18
BATTLE CREEK NEAR COLTONWOOD (STA . 885)	Mineral co	- Corban- ote (CO ₃)	3.0	00.00	0.00	00.00	00.00	03.0	0.00	0.00	0.00	00.00	00.00	00:0
Z	Min	Potas- sium (K)					0.0				2.1			
		Sodium (Na)	7.9	0.19	6.6	6.5	0.20	6.3	0.70	9.2	9.1	9.6	7.8	62.0
		Magne- S sum (Mg)					0,40				7.3			
		Calcium M	1.190	0.63°	286.0	0.86°	0.40	0.88°	1.02°	1.120	0.60	1.15°	1.000	06.0
		8 PH	25.	7.3	7.5	7.7	7.7	81.8	1.00	88.0	8.1	8.0	8.0	5.7
	21,10	(micromhos at 25°C)	147	80	126	107	106	477	130	146	156	152	135	118
-	Spe													
		Oxygen oxygen ppm %Sot	88	2 94	98	9 103	0 100	9 100	101 5.0	3 102	100	2 114	100	101
			10.2	10.5	11.4	10.9	10.0	9.6		9.3	10.4	11.2	10.4	11.4
		Fo E	Lt7	51	87	55	09	49	99	69	69	62	5.1	50
		Dischorge Temp in cfs in oF	280	1,530	7 35	094	0.24	001	230	222	138	217	277	380
		Dote ond time sompled P.S.T.	1/11	2/9	3/1 ⁴ 0930	11/11	5/3 1105	6/8	7/2 1610	8/1 1635	9/11	10/1	11/1	12/7

o Field pH

b Laboratary pH

c. Sum of calcium and magnesium in epm.

c. Sum of calcular and magnession in epin.

d. tron (Fe), aluminum (Al), assenic (As), copper (Cu), lead (Pb), manganese (Un), zinc (Zn), and hexavalent chromium (Cr*⁶), reported here as $\frac{0.0}{0.0}$ except as shown.

Derived from canductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

h Annual median and tange, respectively. Calculated from analyses at duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

In the Interior, Bureau of Reclamation (USBR), United States Department of the Interior, Bureau of Reclamation (USBR), United States Public Health Service (USPR), San Benardino County Flood Control District (SBCFCD), Metropoliton Water District of Southern California (WMD); Las Angeles Department of Water (LADMP), City of Los Angeles Department of Water Resources (DMR); as indicated.

Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DMR); as indicated.

CENTRAL VALLEY REGION (NO. 5) BEAR RIVER NEAR WOUTH (STA. 20b)

		D														
		Analyzed by 1		USGS												
	,	bid - Caliform ity MPN/ml														
	Tur-	- bid -		7	25	04	35	2		g	CI.			4	55	
		N C.		19	72	0,	0	00		0	17			00	ω	
				71	81	37	27	57		128	103			54	20	
	Pac	sod -		11	14	77	17	72		39	13			16	14	
	Totol	solved solids in ppm		103°	119 ^e	57e	63°	¹ 76		274e	141 ^e		_	9η8	18 e	
		Other constituents						PO ₄ 0.05								
		Silico (SiO ₂)						17								
	million	Boron (8)		0)	0:1	0:0	0:1	0.0		0.1	0.0			0:0	0	
million	per mil	Flua- ride (F)						0.1								
parts per million	1 1	Ni- trate (NO ₃)						0.00						_		
ă	equivalents	Chio- ride (CI)		6.2	8.5	2.6	4.5 0.13	0.37	-	50	7.5			71.0	0.11	
	L. S	Sul - fate (SO ₄)						8.0								
	stifuent	Bicar- bonate (HCO ₃)		1.05	69	34	99.0	38.0	_	158	105			56.0	51 0.84	
	Mineral constituents	Corban- ate (CO ₃)		0.00	0.00	0.00	0.0	0.00		0.00	0.00			0 000	0.00	
:	Min	Potas- sium (K)						1.0								
		Sodium (Na)		0.18	5.9	2.7	3.9	8.3		38	7.3			4.8	3.9	:
		Mogne- sum (Mg)						5.4								
		Colcium Mogne- (Ca) sium (Mg)		1.42c	1.61c	0.74c	0.84c	14 0.70		2.57c	2.06			1.08°	1.01°	
	ಪ	I.a.		7.5	7.4	7.3	7.3	7.7		8.1	7.6			7.3	7.3	
	Specific	conductance (m.cramhas at 25°C)		160	185	88	8	151		924	220			131	121	
				105	8	102	96	8,		69	104			91	76	
		Disso oxy ppm		13.1	11.11	11.7	10.1	9.6	Dry	0.9	8.1	r.o	r _C	8.9	10.9	
		Temp in oF		£.3	2	67	96	62	led -	73	33	led -	led -	29	51	
		Discharge Temp		84 est		900 est.	500 est.	50 est	Not Sampled	Ponded	5 est	Not Sampled	Not Sampled	140 est.	300 est	
		Date and time sampled P S.T	1962	1/4	2/8	3/15	1,75 0830	5/15 0730	6/11	7/2 0750	8/13	9/10	10/1	11/1	12/3	

o Freld pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

c. Sum of carcium and independent in Epin. A decipied (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves

g Gravimetric determination.

h Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service (USPHS); Son Bernardino County Flood Control District (SBCFCD); Materapolitan Water District of Southern California (WWD); Los Angeles Department of Water and Power (LADWP), City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Water Resources (DWR); as indicated.

TABLE B-14 ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5) BEAR RIVER NEAR WHEATLAND (STA. 78)

		Anolyzad by i			nscs													
		os CoCO ₃ ily MPN/mi by i			Median 23.	2400. Minimum	;											
Γ	Tur	- piq -			4	80	20	2	5	0	4	ന	6	15	80	70		
		000 000 000 000 000	S E		8	25	80	00	Φ	15	22	12	18	53	9	9		
		Hard os C	2010 PDM PDM		69	82	33	01	74	87	122	104	121	152	24	41		
	P	to Bod			엄	13	14	16	14	01	12	ET .	01	7	16	15		
	Total	solids	1		101	117 ^e	50°	909	71.	122	165 ^e	146°	157 [£] 1548	210	70°	63°		
		Other constituents							ABS 0.0; POt, 0.00				As 0.00; ABS 0.0; PO ₁₄ 0.25					
	ļ	Silico (SiO ₀)							71				81					
-	llion	Boron (B)			0.0	0.1	000	000	0:0	0:0	잉	%	0:0	0.0	0:0	0.0		
ioi II io	per million	Fluo-							0.0				0.2					
ports per million		-in-							0.00				0.00					
ă	equivolents	Chlo-	(C)		5.5	0.22	3.4	2.8	3.8	6.3	8.0	8.0	9.2	15	3.0	4.4		
	ni s	Sul -							9.0				22 0.46					
	stifuent	Bicor- bonote	(HCO ₃)		9.98	70	30	39	94 0.79	1:41	2700	1.81	126 2.07	150	47 0.77	43	 	
	Minsrol constituents	Corbon-	(00)		0.0	00.0	0.00	00.0	0.0	0.00	0.00	0.00	0.00	0.0	0.0	0.00		
	Min	Potos-	ŝ						0.5				0.01					
		Sodium (No)			0.19	5.5	2.6	3.5	3.6	0.20	7.3	$\frac{7.1}{0.31}$	6.5	8.6	3.8	3.2		
		Mogne-	(Mg)						0.39				1.17				 	
		Calcium (Co.)	(0)		1.38°	1.63°	999.0	0.80	0.55	1.73°	2.44c	2.08℃	25	3.05	0.90	0.82°		
	ed	IA H			7.6	4.7	7.3	7.5	7.4	8.0	8.1	7.6	7.7	7.6	7.3	7.3		
	Specific	conductonce (micromhos at 25°C)			159	185	42	お	110	192	261	230	360	332	111	100		
			%2ot		109	%	102	76	8	91	011	112	011	82	103	8:		
		Oissolved	mdd.		13.0	11.11	15.1	10.2	9.8	8.3	7.8	8.8	9.5	7.6	9.8	11.11		
		Temp in oF			94	9	Ĺή	96	9	38	85	83	73	29	19	51		
		Oschorge Temp in cfs in oF			86	190	870	200	88	10	0.9	17	4.9	3.6	214	1010		
		ond time	P.S.T.	1962	1/4	2/8 0745	3/15 1230	4/5 0735	5/15 0630	6/11	7/3	8/13	9/10	10/1	11/1 1645	12/3		

a Field pH.

b Loboratory pH.

c. Sum of calcium and magnessum in epm. decided (Rs), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown. c. Sum of calcium and magnesium in epm

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Burreau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardino Country Flood Cantral District (SRCECD); Metropoliton Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADMP), City of Los Angeles, Department of Southern California Department of Water Resources (DWR); as indicated.
Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

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CENTRAL VALLEY REGION (NO. 5)

BIG CREEK ABOVE PINE FLAT DAM (STA. No. 33d)

		Anolyzed by i	USGS													
		a bid - Coliform N in ppm MPN/mi	Median	13. Maximum 230.	Minimum 0.23											
		- pig		m	2	77	9	70	2	7			10	-	ч	
		SO Ng		m	0	0	0	0	0	0	,,,,,		П	0	0	
				36	28	28	21	7	22	27			971	39	38	
		cent cent cent cent		4	07	33	36	07	38	707			70	707	39	
	Totol	dis- solved solids in ppm		66				977								
		Other constituents						PO ₁₁ 0.50								
		Silic 0 (SiO ₂)		777				61			_				·	
	lion	5		0.1	0.0	0.1	0.1	0.0	0.0	0.0			0.0	0.1	0.0	
, 33d)	per million	Fluo- ride (F)		000				0.2								
IA. NO	- I	_		00.0				000								
DAM (S	equivalents	Chlo- ride (CI)		6.0	9.1	0.11	2.8 0.08	1.8	2 ° 8 0 0 0	6.0			20	15	13	
NE FLA	Ē	Sul - fate (SO ₄)		8.0				1.0								
BIG CREEN ABOVE PINE FLAT DAM (SIA. NO. 33d)	constituents	Bicar – bonote (HCO ₃)		070	34	37	30	26	35	179.0			55	53	0.85	
LG CREEK	Mineral com	Corbon- ote (CO _S)		0.00	0000	0.00	000	000	0000	000			000	000	0000	
0	ž	Potas- sium (K)		10.0				0.0								
		Sodium (Na)		12 0.52	0.38	6.4	5.5	0.20	5.9	8.3			14 0.61	12	11 0.48	
		Magne- Sium (Mg)		2.1				0.5								
		Colcium Magne- (Co) Sium (Mg)		11 0.55	95.0	95.0	0.42	0.24	0.43	0.54			26.0	0.78	0.76	
		° <u>z</u>		7.7	7.6	7.0	7.1	7.6	7.1	7.7			7.2	7.6	7.3	
	Specific	conductonce (micromhos of 25°C)		139	26	986	99	25	7h	06			158	138	135	
				96	101	76	96	20	77	100	.00	.cd.	116	93	93	
		Oissolved oxygen ppm %Sa		12.0	11.7	10.8	10.0	7.5	7.5	0.6	collected	collected.	10.h	10.2	10.7	
		Temp		43	87	977	95	굯	29	70	mic	sample c	70	52	97	
		Dischorge Temp		5°h	11		96	29	26	æ	No sa	No sa	1		1	
		ond time sompled P.S.T	1962	1/2 09/10	2/5	3/5	1100	5/7	6/h 1100	2/2	8/	16	10/1	11/5	12/3	

a Field pH

e Derived from conductivity vs TDS curves

b Laborotory pH.

c Sum of colcium and magnesium in epm.

Superior Carterius and Superior Copy, lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as 0.0 except as shown.

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Survey of Reclamation (USBR), United States Department of Water Branch (USBR), United States Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

		Anolyzed by 1		USGS											
		bid - Coliform													
		bid-		N	50	m	CV	2	0	O			45	20	ω
		Hordness os CoCOs	DEG	0	0	0	0	0	0	0			5	0	0
				78	24	43	14	63	72	80			57	38	35
		Cant Sod -	Ē	27	17	21	56	27	28	53			50	23	50
	F	- Bolo	mqq n					125 ^f							
			Other constituents					Po _{l,} 0.00		Tot. Alk. 110					
1		Sitico	(2 0:S)					쵦							
	100	5	(B)	0.1	0.0	0.1	0.5	0.1	0.5	0.1			0.2	0.0	0
	million	Fluo-	(F)					0.01							
A. 85a)	ports per million		(NO ₃)					0.00							
HICO (SI	, ince	1	(CI)	0.34	0.05	3.8	0.11	9.0	0.26	0.31			0.15	0.10	0.05
K AT C	5	Sul -	(SO ₄)					0.4							
BIG CHICO CREEK AT CHICO (STA. 85a)	constituents	Bicor-	(HCO ₃)	96	31.	96.0	1.10	1.46	101	104 1.70			1.05	0.82	0.82
BIG CH	Minsrol col	Corbon-	(CO ₃)	0000	00.00	00.0	0000	000	00.0	3 0.10			0.00	0.00	000
	ž	Potos-	(X)					0.0							
		Sodium	(NO)	13	0.08	5.3	7.7	11 0.48	13	15			6.7	5.2	0.17
		Mogna-	(Mg)					5.6							
		Colour	(°C)	1.56	0.48c	0.86	0.94°	0.80	1.440	1.60°			1.14°	0.75	0.70
		I C	a/b	7.9	7.3	7:7	8.0	8.0	8.0	00 010			7.5	7.7.	E. C.
	;	Specific conductonce (micromhos	of 25°C	198	58	107	122	169	195	211			120	76	87
		D	%Sot	106	76	95	98	100	93	117			93	26	66
		Dissolved	wdd	12.8	11.0	11.2	9.5	80.0	0, 8	2.6			6.6	10.7	27.11
		Temp in oF		45	50	14	99	62	75	80			55	52	0.70
		Dischorge Temp		6.8	1,030	52	16.4	4.5	12.2	8	DRY	DRY	16	76	216
		Dote ond time	P.S.T. 1962	1/11	2/15 0825	3/15 0925	4/12 1640	5/14	6/19 0850	7/17	8/20 1320	9/20 0750	10/17	11/27	12/19 3920

b Loborotory pH

c Sum of colcium and magnesium in epm.

c. Sum of colcium and magnessium in Epm.

d. Iron (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as 0.0 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

h Annual median and tonge, respectively. Calculated from analyses of duplicate manshly samples made by California Department of Public Health, Division of Laboratories, or United Stores Public Health Service.

Annual analyses made by United States Geological Survey, Quality of Water Branch (USCS); United Stores Department of the Interior, Bureau of Reclamation (USBR); United Stores Public Health Service (USPHS); Son Bernardino Country Flood

Country (SRECED), Metropoliton Water District of Southern California (WMD), Los Angeles Department of Worter and Power (LADMP); City of Los Angeles, Department of Water Resources (DWR); os indicated.

Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); os indicated.

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

	_																	
			Anciyzed by i	USGS														
			ds CoCO ₃ 1ty MPN/mi Totol N C ppm ppm	Maximum 2,400.	Minimum 0.62	Median 23.											-	
		Tur-	Pid-		35	m	~4		N	α	N.	m	35	10	r-			
			N C P P P P P P P P P P P P P P P P P P		0	0	0	0	Э	0	٥	0	0	0	0			
		2	as C	73	42	04	22	63	99	74	16	76	94	07	32			
		Q.	sad -	28	14	22	25	25	30	63	33	문	27	23	19			
		Tatoi dis-	solved solids in ppm					122f				154f 1496						
			Other constituents					PO1, 0.00		Tot. Alk. 108	Tot. Alk. 116	PO _{1, 0.00} Tot. Alk. 114						
			Silica (SiO ₂)					99				84				·		
	ا۔	llion	Boron (B)	0.0	0.0	0.1	ि	0:1	0:5	0.1	0:0	0.2	0.1	0:0	0.0			
	million	per million	Fluo- ride (F)					0.0				0.00						
STA. 85)	ports per million	equivalents	trate (NO ₃)					0.00				0.00				<u> </u>	 	
BIG CHICO CREEK NEAR CHICO (STA. 85)	4	equiv	Chid- ride (CI)	12	1.5	3.2	3.2	8.8	9.5 0.27	0.28	12	12 0.34	0.11	3.2	0.05			
NEAR	Ē	- 1	Sul - fats (SO ₄)					0.00				5.0						
CO CREEK	constituents		Bicor- banate (HCO ₃)	36	30	52 0.85	1.05	86	1.59	1.00	1.70	1.06	58	5 ⁴ 0.89	45.0			
BIG CHI	Mineral con	- 1	Carbon- ats (CO ₃)	00.0	00.0	0.00	0.00	00.00	00.0	4 0.13	0.20	4 0.13	0.00	0.00	00			
	M		Potas- sium (K)					0.03				0.03						
			Sodium (No)	13 0.57	0.08	5.0	0.33	10	13	174	177.0	16	7.8	5.5	3.5			
			Mogne- stum (Mg)					6.2				8.1						
			Colcium (Ca)	2 <u>94*I</u>	84.0	0.80	1.00	15	1.36°	1.48c	1.52c	0.85	0.92c	0.80	2.64		 	
			pH a/b	7.8	7.3	7.3	8.0	6.0	80 80	7.7	8.4	8.8 8.3	7.5	7.5	7.8			1
		Specific	(micramhas	197	09	100	111	165	187	204	212	214	114	101	78			
			6	98	103	93	97	97	86	89.	98	100	102	104	103	-	 	1
		Oresphan	oxygen ppm %	12.1	11.6	11.11	6.6	10.1	_†. ∞	e. %	48	9.3	0.11	7.11	13.2		 	
		6	o ei	777	50]	746	59	57 1	75	22	7.	19	54 1	52 1	53			
		Contract	in cfs in 0F	88	2,530	180	104	89 -	34:	772	50	22	160	220	066			
			and time sampled P.S.T	1/11	21/2 3905	3/15	4/12	1000	6/18	7/17	8/20	9/19	10/17	11/27	12/18			

o Freld pH.

b Lobarotary pH.

c Sum of calcium and magnesium in epm.

A lone (St.) element (AL), especial (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown. Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

i Mineral analyses made by United Stotes Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); Son Benardina County Flood Control District (SBCFCD); Metropoliton Weter District of Southern California (WWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Laborataries, Inc. (TTL); or California Department of Water Resources (DWR), as indicated. Annual median and ronge, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5)

BUTTE CREEK NEAR CHICO (STA. 84)

		Analyzed by i	USGS													
	,	bid - Collform's ity MPN/ml	Maximum 620.	Minimum 0.23	Median 9.6											
	Tur.	bid - ity in ppm	н	140	m	00	77	00	ന	Н	7	04	15	8		
		Hordness base CaCO ₃ n Total N.C.	0	0	Н	0	0	0	0	0	0	m	0	0		
			57	56	39	30	233	34	777	917	745	39	37	32		
	9	rent Fod -	27	12	13	23	17	1.5	15	97	15	13	13	7		
	Total	solved solids in ppm					53 [£]				76f 868					
		Other constituents					PO4 0.00				PO4 0.00					
		Silico (SiO ₂)					10				21					
	Hion	Boron (B)	0.0	0.1	ं।	0,0	0:0	0.0	0	0.0	00	<u></u>	0	0		
	per million	Fluo- ride (F)					0.0				000					
, to . W.	ports per million equivolents per mill						0.00				10.0					
(2)	AINDS	Chlo- ride (CI)	2 3	1.4	0.0	0.8	1.5	2.5	0.0	1-4	0.5	0.03	3.5	0.0		
BUILE CREEK MEAR CALCO (SIM. 04	E	Sut - fote (SO ₄)					1.0				0.0					
CHEEK	constituents	Bicor- bonote (HCO ₃)	76	32 0.52	46	37	39	48	56	63 1.03	1.06	444	77.0	0.72		
BULLE	Mineral con	Corbon- ots (CO ₃)	0000	0000	00.00	0000	000	0000	000	000	0000	0000	00.0	000		
	∑.	Potos- sium (K)					0.3				1.2					
		Sodium (No)	3.7	0.07	2.7	4.2 0.18	2.8	0.12	3.4	0.17	3.8	2.7	2.6	0.08		
		Mogne- sium (Mg)					2.4				2.4					
		Colcium (Co)	1.140	0.52°	3 0.78°	0.00	7.2	0.13	0.860	2.926	3 24	0.78°	0,42	0.040		
		PH B/L	7.9	7-7	7.5	7.5	77.3	7-3	8 3	0 N	0 0 0	7-2	7:5	5.5		
	Sperific	conductonce (micromhos at 25°C)	123	59	85	69	59	831	96	102	106	82	778	12		
		1 %	100	97	95	101	7.6	16	39	251	106	100	16	97		
		Disso	12.3	11.1	11.5	10.ń	10.9	6	80	9.5	10.2	10.9	11.0	10.7		
		Ten	77	64	54	%	51	79	17	70	759	53	2	52		
		Dischorge Temp in cfs in of	%	3,900	1441	571	415	216	146	119	115	0.70	DF 17	1,260		
		ond time sompled P.S.T	1/11	2/15	3/15	1,12	5/14	6/19	7/17	8/20	9/19	10/17	11/27	12/18		

-1.70-

b Loborotory pH.

c. Sum of colcium and magnesium in spin.

d. Iron (Fe), aluminum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown. c Sum of colcium and magnesium in epm.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

g Gravimetric determination

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Lobaratories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5) CACHE CREEK NEAR CAPAY (STA. 80)

		Anolyzed by 1		nsgs							·						
		bid - Coliformi ity MPN/mi		Median 23.	Maximum 620. Minimum	- 1											
	Tur	- piq ity uppa		N	4	8	m	10	m	97	7	15	m	٦	07		
		Hardnass as CoCO ₃ Tatal N.C.		53	23	13	7	0	0	0	0	0	0	16			
				247	229	179	200	152	150	142	145	152	175	257	210		
	Par	sod -		9	37	8	8	28	55	23	23	23	32	37	37		
	Total	solved solids in ppm		443	402°	271 ^e	291 ^e	2.27 ^f	205 ^e	191 ^e	189 ^e	$\frac{213}{2006}^{\rm f}$	262°	425e	345e		
		Other constituents						ABS 0.0; POL 0.00				As 0.00; ABS 0.0; Pol ₄ 0.55					
		Sinco (\$102)						위				켐					
	ion	Boron (B)		3.2	2.9	1.2		1.3	<u>:</u>	1.0	7:	7	1.2	3.1	3.9		1
E III	ser mil	Fluo- rids (F)						0.1				0.1					
ports per million	equivalents per million	rote (NO ₃)						0.05				1.8					
ă	equivo	Chlo- ride (CI)		3.13	93	38	1.16	24 0.68	18	0.39	16	16	3 ⁴ 0.96	102 2.88	69		
	<u>-</u>	Sul - fots (SO ₄)						210				7.0					
	constituents	Bicar- bonats (HCO ₃)		266	244	196 3.21	3.51	3.33	191 3.13	186 3.05	3.20	207 3.39	236 3.87	250	241 3.95		
	Minsral con	Corbon- ofs (CO ₃)		0 0	4 0.13	3 0.10	8	0.0	0.00	000	0.0	0.0	0.00	22 0.73	0.23	-	
	Min	Potos- sum (K)						2.5				7.2					
		Sodium (No)		3.22	63	35	39	28	20 0.87	19 0.83	0.78	21 0.91	37	88 8.3	56		
		Mogns- Sium (Mg)						19				1.59					
		Calcium (Ca)		2,040	1.58°	3.58c	7.00°	29	3.00	2.84c	2.89c	29	3.490	5.14c	4.21c		
-	Ø1	A H		88	8.3	88.2	8.0	8.2	8 Kg 100	7.6	8.3	8.0	8.3	8.3	8.3		
	Spacific	conductance (micromhas at 25°C)		961	723	187	524	414	368	344	340	369	472	765	621		
				95	89	95	76	95	88	95	100	102	96	%	100		
		Dissolvsd osygsn ppm %So		11.3	10.6	10.5	6.6	8.8	8.3	7.8	8.5	9.1	0.6	9.5	10.5		
				94	94	<u>S</u>	%	19	69	75	75	02	99		26 1		1
		Dischorgs Tamp		54	29	280	282	414	330	366	340	218	11		285		
	9,00	sompts d	1962	1/4 0835	2/1 0700	3/5	4/3 0730	5/2 0630	0490	7/5	8/2 0955	9/4	10/1 0925	11/1	12/4 1355		E. Flattage

Derived from conductivity vs TDS curves

b Laborotory pH.

c Sum of colcium and magnesium in epm.

Iron (F), aluminum (Al), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr *6), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of analyzed constituents.

Grovimetric determination

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

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Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); ar California Department of Water Resources (DWR); as indicated.

CACHE CREEK NEAR LOWER LAKE (STA. 42)

P

		Anolyzed by 1			USGS													
	4	bid - Coliform" ify MPN/mi			Median 23.	Y7000.	G:5											
	- Ju	- pid - ity n ppm			8	-7		Φ	10	8	25	7	15	15	10	6		
		000	D E G		4	0		0	0	0	0	0	0	0	0	0		
		Hordness os CoCOs	Tatal		129	129		132	128	127	128	134	138	141	102	116		
	Par	sod -			17	18	-	18	17	17	18	16	18	2.1	19	50		
	Total	solved	E 00 C		152	162		163°	160 ^f	159e	159°	164°	186 ^f 172 ^g	181	132°	154		
		Other constituents	j						7.4 PO4 0.10; ABS 0.0				As 0.01; ABS 0.0;					
	.	Silica	Zole)										113				 	
16	ıllion	Boron			0.7	9.0		1:0	0:1	0,1	0.8	9.9	8:0	0:1	9.6	0.7		
e lie	per million	Fluo-	_						0.2			_	0.00					
ports per million	equivalents	- N - t	(NO ₃)						0.0				0.00					
à	equivo	Chlo-	(C)		6.5	9.5		7.0	7.0	7.2	8.0	4.0	7.2	8.2	5.5	9.7		
	<u>-</u>	Sul -	(804)						8.6 0.18	-			9.0					
	constituents	Bicar -	(HCO ₃)		152	2.43		166 2.72	162	165	167	2.92	3.15	3.25	128	141 2.31		
	Minerol con	Carban-	(co)		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Min		<u>£</u>	-					2.3				2.5					
		Sodium	(DA)		0.52	13		13	12 0.52	12	13	125 0.52	14 0.61	24	11	13		
		Magne	_						1.36				1.46					
		alcium (22)	(00)		2.580	2.58€		2.64°	24	2.55°	2.56°	2.67c	26	2.82€	2.04°	2.32c	 _	
	द।	PH P			7.5	7.5		7.9	7.7	8.1	8.5	8.0	7.9	8.1	7.5	7.5		
	Specific	(micrambas at 25°C)			712	291		293	288	286	287	295	311	327	238	277		
-			%Sat		96	88		%	96	76	93	46	136	93	62	91		
		Dissolved	% wdd		11.0	11.1		6.6	0.6	8.9	7.5	7.6	7.8	8.5	0.8	10.1		
-					1 1	142 1	T C	57	99	65	80					52		
		Oischorge Tamp			1.3	3.1	Not Sampled	8.5	335	383	1111	359	564	54	2.7	8.0		
		ond time	PST	1962	1/4	2/1 0950	3/6	4/3	5/2 0935	6/5	7/5	8/2	9/4	10/1	11/11	12/4		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm

c. Sum of calcium and magnesium in opm. defending the sum of the s

Derived fram conductivity vs TDS curves

Determined by addition of analyzed constituents.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Colifornio Department of Public Health, Division of Laborataries, or United States Public Health Service. g Gravimetric determination

Mineral analyses mode by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USRR); United States Geological Survey, Quality of Water Branch (MWD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Mulic Health (LADPH), City of Los Angeles Beach, Department of Public Health (LADPH), City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated.

CACHE CREEK, NORTH FORK NEAR LOWER LAKE (STA. 79)

	Analyzed by 1		USGS													
4	Hardnese bid - Coliform os CaCO ₃ ity MPN/mi		Median	13. Maximum	230. Minimum	<u></u>										
Tur	bid - hy n ppm		C)	1	m	120	C/I	н	~	2	m	Q.	10	-	CV	
	000	D Ed	20		-3	CV.	m	0	0	9	6	п	m	0	0	
	Hardr os Co	Tatal	204		172	79	126	164	187	186	196	199	188	229	123	
P. P.	t pos			,	30	16	19	%	27	30	33	34	34	32	53	
Totol	spilos	Edd vi	315	}	267°	81	156°	229 ^f	267°	282	301°	331 ^f 322 ^g	307°	358e	188e	
	Other constituents							PO _{1,} 0.00				PO _{1,} 0.00				
	Silica	50						17				19				
uou	Boron S	<u>(</u>)	7.7		3.0	0.2	1.6	1.8	2.5	3.6	4.2	4.2	3.9	5.2	2,3	
million per million	Fluo-B							000				0.0				
la	Ni-	\rightarrow						0.00	-			0.4				
ports pr	Chia-		ď,	1.64	1.18	3.5	10 0.28	25 0.62	37	1.30	57	63	56 1.58	70	25	
ē	Sul -	(804)						13 0.27				19				
canstituents	Bicar-	(HCO ₃)	واد	3.47	3.36	76	146 2.39	3.31	207 3.39	<u>195</u> 3.20	212	193 3.16	3.70	245	163 2.67	
	Carbon	(co ₃)	9	0.20	0 00	00.0	2 0.07	000	10	12 0.40	7 0.23	0.60	0 0	0.40	0.00	
Minerol	Potas- C	Έ,						0.03				1.9				
	Sodium	(NO)	04	1.83	34	5.7	177	0.96	31 1.35	37	1.91	2.09	16.1	2.13	23	
	Mogne-	(M)					·	21 1.73			-	27	_			
	Colcium	(02)		1.08c	3.45c	1.28c	2.52°	31	3.73c	3.72c	3.920	35	3.77°	1.58°	2.460	
	H		7	3.7.	9.2	9.0	8.3	8.5	88.5	7.5	8.3	8.5 8.5	88.3	8.4	7.9	
Specific	(micramhas	5	256	200	471	143	275	396	471	164	531	562	545	631	331	
		%Sot	101	Cy.	95	93	%	705	011	115	911	140	117	911	102	
	Oissolved oxygen	ppm 0	u (i	·	9.11	0.11	10.4	9.9	10.5	9.5	9.3	n.3	10.7	11.3	10.7	
			a		75	17 1	55 1	63	79		82			62	26 1	
	Oischorge Temp		ä	77	£3	5660	190	59	24	2.1	2.3	1.5	1.6	56	185	
	Dote ond time	P.S.T.	1962	1045	2/1 0855	3/6	4/3	5/2	6/5	7/5	8/2	9/4	10/1	11/1	12/4	

b Loboratory pH.

c Sum of colcium and magnesium in epm.

Sum of colcium and magnesium in Epin.

Iron (Fe), aluminum (Al), organic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr *6), reported here os $\frac{0.0}{0.00}$ except os shown.

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves

Grovimetric determination.

Mineral analyses made by United States Gealagrool Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Gealagrool Survey, Quality of Water Branch States Department of Water and Power (LADWP); City of Los Angeles, Department of Water and Power (LADWP); City of Los Angeles, Department of Water Resources (DWR); as indicated.
Public Health (LBDPH); Terminal Testing Lobarations, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5)

		Analyzed by i	USBR			-		
		Hardness bud Collformh Analyzed as CaCO ₃ 11y MPN/ml by i by i pom pom pom						
	ŀ	- Pig - Pig						
		N COS						
		1. 1						
-		og -		35	0,	89	34	
	Total	solids in pom		160	104	148	208	
		Other constituents						
		Silica (SiO ₂)						
9	Illian	Boron (B)						
0a.)	Der 3	Flua- ride (F)						
CACHE SLOUGH BELOW LINDSEY SLOUGH (STA. 110a)	equivalents per million	rate (NO3)						
LOUGH (900			리	8.5	133	9	
NDSEY S	ts in	Sul - fate (SO ₄)						
SELOW LI	netituen	Bicar – banate (HCO ₃)						
SLOUGH	Mineral constituents	Carbon Bicar ate (CO ₃) (HCO ₃)						
CACHE	ž	Potas- srum (K)						
		Sadium (Na)		15	9.5	77.	17	
		Magne- Sium (Mg)						
		Calcium (Ca)						
-		¥ 80						
	Cassific	conductance (micromhas at 25°C)		506	130	184	216	
		gen %Sat						
		Disso						
		Ten oi		77	61	73	19	
		Discharge Temp in ofs in OF	Tidal					
		Date and time sampled P.S.T.	1962	1/23	1040	7/18	10/15	

o Freld pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

c. Sum of dolchum and magnessum in epin.

d. Iran (Fe), aluminum (A1), arsence (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr *5), reported here as $\frac{0.0}{0.00}$ except as shown. e Derived fram canductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

³²⁵⁰⁵⁻L-H 6-61 270 LPU Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Beging States Department of the Interior, Bureau of Reclamation (USBR); United States Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Branch (USPHS); Son Bernardina Caunty Fload Cantol District (SECED); Metropolition Wanter California (MWD); Las Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LBDPH); City of Lang Beach, Department of Water Resources (DWR), as indicated.

CENTRAL VALLEY REGION (NO. 5) CALAVERAS RIVER AT JENNY LIND (STA. 16a)

_															
		Anolyzed by i		nsgs											
	4	Hordness bid - Coliform A os CoCO ₃ ity MPN/ml Totol N.C. ppm		Median 9.5	Maximum 2400. Minimum	0.63			-						
	1 5	- pig		4	09	30	-	~	10	m				7	н
		S S S S S S S S S S S S S S S S S S S		咒	13	7	31	21	9	20				23	27
		Hordn 0s Co Toto! Ppm		160	57	53	191	152	8	111				155	152
	Par	cent cod - rum		14	77	17	17	91	77	15				14	15
	Totol	solved solids in ppm		224°	81 ^e	80	222 ^e	207 ^f	124e	152 ^e				218 ^e	500g
		Other constituents						PO ₄ 0.00							
		Silico (SiO ₂)						91							
	ion	Boron (B)		0.1	0.1	0.0	0.2	0.0	0:0	0.1				0:0	0.1
ports per million	per million	Fluo- ride (F)						0.2							
orts per	equivolents	rote (NO ₃)						0.00	_						
Do	equivo	Chio- ride (CI)		16	3.6	4.4	21 0.59	14	5.0	7.0				16	0.45
		Sul - fote (SO ₄)				-		0.00							
	STUBBLI SHOO	Bicor- bonote (HCO ₃)		2.05	54 0.89	56 0.92	140 2.29	160	102	2.11				161	2.49
		Carbon- ote (CO ₃)		0.0	0.0	0.00	9	0.0	0.0	0 0 0				0.00	00.0
		Potos- (X)						2.6							
		Sodium (No)		0.52	4.3	4.8	15	170	6.7	8.7				12 0.52	0.52
		Mogne- Stum (Mg)						1.19							
		Colcium Mogne-		3.21°	1.13c	1.060	3.21°	37	1.80°	2.22c				3.11°	3.03
		H		7.6	7.2	7.6	7.4	88.5	7.4	7.4				8.0	8.1
	Specific	conductonce (micromhos of 25°C)		364	131	130	361	342	201	247				354	۳۶ ۱ ۲ ۳ ۳ ۳ ۳ ۳ ۳ ۳ ۳ ۳ ۳ ۳ ۳ ۳ ۳ ۳ ۳ ۳ ۳
		1 5		88	8	105	80	132	103	76				85	02
		Oxygen oxygen ppm %Sc		10.8	10.8	11.5	9.7	1.1.	9.8	7.8	Dr.y	Dry	Dry	8.5	7.7
		Te and		7 7	52	53	79	73	179	80	1			99	25
		Oischorge Temp		6.6	3710	5640	5.3	2.0	257	1.6	Not Sampled	Not Sampled	Not Sampled	37	α. m
		ond times	1962	1/11 0905	2/15	3/8	1/1,	5/7	6/5	7/9	8/1	9/5	10/2	11/13	12/6

o Field pH

b Loborotory pH.

c Sum of colcium and magnesium in epm.

c. Sum or colcusm and present in Epin. A formal state of (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of analyzed constituents e Derived from conductivity vs TDS curves

Gravimetric determination.

n Amerol analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USRR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropoliton Water District of Southern California (WMD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Lobaratories, Inc. (TLL): or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5) CALAVERAS BIVER NEAR STOCKTON (STA. 16b)

	Anolyzed by 1			uscs														
	de Cocos bid Coliform de Cocos bid Door MPN/mi			Median 62.	2400. Minimum	;											-	
	P 20				8	150	25		8									
	:0	D E			21	9	П		9									
	Hard os Co	Tatal			52	57	27		8									
C	Cont od od				15	13	29		15									
Total	solids	mdd ui			83	81e	53 ^e		137 ^e									
	9000																	
	Silica	20is																
ion	5 ا	<u> </u>			110	0.1	0.2		0:0									
million per million	Fluo-																	
151		(NOs)																
ports pr	Chlo-				3.8	3.4	9.0		8.0				<u>.</u>					
<u>.</u>	Sul -	(80%)																
Mineral constituents	Bicor-	(HCO ₃)			0.80	57 0.93	32 0.25		103							-		
ral con	orban	(co)			0 0	0.00	0.00		0.0	·			-					
Mine	Polos-	(X)														-	_	
	Sodium	(No)			0.18	3.9	5.1		7.3									
	Aogns-	(Mg)																
	PH Coleium	(co)			1.04°	1.14e	0.55e		1.80e									
	dio H				7.2	7.1	7.7		7.5									
of the second	conductonce (micromhos	(a _ c > in			627	127	83		214									
	p u	%Sot			93	104	96		82									
	Dissolved	bpm 6		Drzy	10.3	11.5	9.5	Dry	8.9	Dry	Ory	Dry	Dry	Dry	Dry			
	Temp in OF)led	52	52	179	led .	88	paled .	pled -	paled .	paled -	paled -	pled .			
	Dischorge Temp in cfs in PF			Not Sampled	7 300	2340	3.4	Not Sampled	5.6	Not Sampled								
	ond time	P.S.T	1962	1/11	2/15	3/8	1110	5/7	6/5	1/9	8/1	9/5	10/2	11/13	12/5			

a Field pH.

b Lobaratory pH.

c Sum of coleium and magnesium in epm.

c. Sum of colcinum and magnessium in April. despect (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as 0.0 except as shown.

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Gealogical Survey, Quality of Water Braneh (USGS), United States Department of the Interior Survey of Managers Department of Water Branes District (SQCFCD), Metropoliton Water District of Southern California Department of Water and Power (LADMP), City of Los Angeles, Department of Water Resources (DWR), as indicated.
Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR), os indicated.

TABLE B-14
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

CHCWCHILLA RIVER AT BUCHANAN DAM SITE (STA. NO. 114)

		Anolyzed by i	USUS														
		Hordness bid Coliform os CoCO ₃ ity MPN/mi Total N.C		Median 6.2 Maximum	62. Minimum 0.62												
	ŀ	- bid -		7	10	0	m	m	15	10	_			ч	~		
		000 3 N.C		98	73	0	0	0	0	115				72	7.		
				187	124	671	22	228	19	208				170	163		
		Sod -		45	1,2	33	37	39	142	17				177	43	 	
	Totol	solved solids in ppm						135									
		Other constituents						PO _{l, 0.10}									
		Silico (SiO ₂)						32									
<u>.</u>	lion	5		100	0:0	0.1	0.0	0:0	0.0	0,1				0.0	्		
0. 114	per million	Fluo- ride (F)						0.2									1
CHOWCHILLA RIVER AT BUCHANAN DAM SITE (STA. NO. 114)	equivolents p	_						0.1								-	
DAM SILE	vinbe			161	86	0.34	0.37	20	33	209				136	137		
HANAN	e i	Sul - fote (SO ₄)						3.0									
AT BUC	constituents	Bicor- benote (HCO ₃)		108	98	61	73	79	87 1.43	114				119	112	_	
LA RIVE	Mineral col	Corbon- ote (CO ₃)		0.00	0.00	0.0	0.0	0.00	0.00	000				000	0.0		
HOWCHI I	Mır	Potos- sium (K)						2.2									
		Sodium (No)		3.00	42 1.83	111	14, 0.61	18	22 0.96	3.70				2.35	2.44		
		Mogne- srum (Mg)						3.8								 	
		Colcium (Co)		3.77	2.49 C	96.0	1.04	17	1.34	4.16		-		3.10	3.27		
	٤	. E		8,2	7.3	7.7	8.0	8.0	8.1	7.9				8.0	8.0		1
	Specific	(micromhos at 25°C)		7114	797	154	167	197	245	859				079	628		
				106	66	93	66	101	776	98	. pg	· p	, D	107	96		
		Dissolved oxygen ppm %So		12.5	10.8	10.2	F . 7	9.0	7.4	0.8	collected.	sample collected.	sample collected.	10.1	10.8		
		Temp in oF		17 77	.c.	22	17	75	178	62	sample co	ple ¢c	ple ¢o	65 10	20 71		
		Oischorge Temp		w Cî	8.1	150 sest.	1	30	80.00		No sam	No sam	No sau		0		
	(ond time sompled	1962	1/8	2/5	3/5	1205	5/7	1345	7/12	8/	16	10/	11/8	12/6		1 1 1

o Freld pH

b Loborotory pH.

c Sum of colcium and magnesium in epm.

Iron (E.) aluminum (Al), assentic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chromium (Cr.*5), reparted here as 0.00 except as shown.

e Derived from conductivity vs TDS curves f Determined by addition of analyzed constituents.

g Grovimetric determination.

Mineral analyses mode by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamption (USBR); United States Geological Survey, Quality of Water Branch States Department of Water and Power (LADWP); City of Los Angeles, Department of Suthern California (WWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Suthern California Department of Water Resources (DWR); as indicated.

Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by Colifornia Department of Public Health, Division of Labaratories, or United States Public Health Service.

ANALYSES OF SURFACE WATER CENTRAL VALLEY REGION (No. 5)

	Γ	_	70		*0												 	
			Analyzed by i		USGS													
		4	os CoCO ₃ ify MPN/mi															
		T of T	pid- ify n pom		O.	140	00	CU	-	H	20	CV .	10	ς,	25	35	 	
			2000 S	o E B O E	9	m	Q	0	C/	2	QI .	00	7	00	21	-		
			Hord S C	Totol Pom	¢4	57	28	28	58	100	[‡] 3	57	63	59	99	35		
		Par-	od - Pos		25	20	50	25	25	25	31	37	37	37	56	22		
		Totol	spilos	E 00 E					60 ^f				121 ^f 120 ^g					
			Other constituents						PO _{1,} 0.00				PO ₄ 0.00					
			Silico	2000			_		118				긔					
		lion	Boron		0:0	0.0	0.0	0.0	0.0	0.0	0.0	0:0	0.0	0.0	0.1	0.0		
	million	per million	F luo-						0.1				0.0	-				
124)	ports per million	equivolents	1rote	(NO ₃)					0.00				0.0					
CLEAR CREEK NEAR IGO (STA. 12d)	٥	equiv	Chio-	(CI)	8.7	0.03	0.07	3.8	4.8	5.8	0.31	21 0.59	26 0.73	0.59	10	4.8		
WEAR IG	9	- 1	Sul -	(\$0\$)					6.0				11 0.23					
CHEEK			Bicor- bonate	(HCO ₃)	45.0	26	32	28	32	43	50	60.08	68	1.02	54 0.89	141		
CLEAR	Manage Inches		Corbon-	(00)	0.00	0.00	0.00	0.00	0.00	0000	0.00	00.00	00.00	0.00	0.00	0.00		
	M		Potos-	€					0.02		•		0.03					
			Sodium		6.6	2.8	3.2	3.7	0.20	6.2	0.40	02.0	17	16	9.3	0.26		
			Mogns-	(Mg)					1.6				4.3					
			Colcium		0.86	0.47c	0.56	0.50	8.8	0.80	0.87°	1.14	0.90	1.19	1.12	0.71		
			Ä,	8/p	7.0	7.1	7.2	7:7	7.0	7.0	7.5	7.8	7.5	7.0	7.5	7.8		
		Specific	(micromhos of 25°C)		124	58	75	99	778	100	134	1,88	214	192	149	66		
			9 5	%Sof	96	66	100	97	98	95	66	97	92	16	101	103		
		i	Dissolved	E dd	12.4	11.4	12.1	10.2	9.5	9.6	00 17.	8.3	9.8	9.6	10.5	11.9		
		,	6 .E		07	64	5#	92	63	63	75	75	67	69	57	©		
			Dischorgs Temp		106	3,620	638	180	254	111	57	27	7 ⁷ .	35	36	270		
			sompled	1.962	11/11	2/9	3/14	14/11	5/3	00800	7/3	8/3	9/14	10/2	11/2	12/7		

b Laborotory pH

c. Sum of colcium and magnesium in Epin.

d Iron (Fe), oluminum (Al), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chromium (Cr*⁵), reported here as 0.0 except as shown. c Sum of colcium and magnesium in epm.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Grovimetric determinotion.

h Annual median and raspectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Name of Laboratories, or United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Branch (USGS); United States Department of Water and Power (LADMP); City of Las Angeles, Department of Suthern California (WMD), Las Angeles Department of Water and Power (LADMP); City of Las Angeles, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5) CLEAR LAKE AT LAKEPORT (STA. 41)

		Anolyzed by i		USGS													
		bid - Coliform ity MPN/mi		Median 2.4	Maximum 7000. Minimum	0,040											
	- 1	ity ity ippm		20	15 7	52	13	00	8	35	-77	35	20	25	15	 	1
	•	N COS		00	0	0	0	0	0	0	0	0	c _V	0	0		
				136	173	102	110	115	118	122	130	132	143	129	127		
	9	sod -		15	17	76	18	17	17	18	18	17	18	17	17		
	Tatal	solved solids in ppm		162°	166 ^e	1336	139 ^e	149£	152e	159e	163 ^e	182 ^f 1688	177 ^e	167 ^e	166°		
		Other constituents						POL 0.10: ABS 0.0				As 0.00; ABS 0.0; PO ₄ 0.30					
		Silica (SiO ₂)						<u>تا</u>				21					
	llian	Baran (B)		0.7	6:0	9.0	0.7	0.8	6.9	0.8	7.0	0.9	0.1	1.0	0.8		
million	per millian	Fluo- ride (F)						0.2				0.01					
parts per million	1 1	rrate (NO ₃)				_	_	0.05				0.00					
ă	equivolents	Chla- ride (CI)		6.2	9.0	5.5	5.0	5.9	6.6	7.5	9.1	6.0	8.3	6.2	8.4		
	<u>-</u>	Sul - fate (SO ₄)						8.8				9.0					
	Constituents	Bicar- bonate (HCO ₃)		156 2.56	163	127 2.08	136	2.36	147	162	173 2.84	182 2.58	172	172	169	 	
	MINETAL CON	Carbon- ate (CO ₃)		0.00	0.00	0.0	0.03	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00		
1 2	MIN	Patas- (K)						1.9	-			2.4					
		Sodium (Na)		0.48	25.0	9.3	111	11 0 0.48	11 0.48	12 0.52	13	13	14 0.61	<u>टर</u> ०.52	<u>टुइ.०</u> ट्रा	 	
		Magne- sium (Mg)						1.20				16					
		alcıum (Ca)		2.72c	2.59€	2.04°	2,20€	22 1.10	2.37c	2.44c	2.60c	26	2.86°	2.58€	2.55°	 	
	¢ 1.	PH.		7.4	7.1	8.1	8.3	8.3	4.0	8.0	8.1	8.2	7.7	7.3	7.5		7
	Specific	conductance (micromhos at 25°C)		281	288	232	241	258	564	27.1	284	286	308	291	289		
				77	89	85	211	95	100	96	8	182	177	S	72		
		Oisso axy ppm		00	10.8	10.2	10.9	0.6	9.1	8.1	7.8	15.0	14.7	9.4	7.8		
		Temp		9	4.5	917	62	69	88	75	82	92	11	98	54		
		Discharge Temp															
	0	sompled P.S.T.	1962	1,4	2/1	3/6	4/3	5/2	6/5	7/5	8/2	9/4	10/1	11/1	12/4		

a Field pH.

b Labaratary pH.

c Sum of calcium and magnesium in epm.

d Iran (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*6), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of analyzed constituents. Derived from canductivity vs TDS curves

Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Duality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Water and Power (LADWP); City of Las Angeles, Department of Survey, California (WMD); Las Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of More Beach, Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

COLUSA TROUGH NEAR COLUSA (STA. 87)

			_													
		Anolyzed by i	USGS													
		bid - Coliform	Maximum 7,000+	Minimum 0.4	Median 230.					-						
	į	- pid - ty mgga	45	07	100	100	35	09	15	30	7	85	07	300		
		000 000 000 000 000	67	0	54	18	0	0	0	0	0	60	17	12		
		Hordness os CoCO ₃ Totol N.C.	292	70	293	154	112	118	144	138	154	172	284	146		
	d	80d -	55	53	53	77	87	64	45	77	77	51	53	57		
	Total	solved solids in ppm					254£				321 ^f 323 ^g				<u> </u>	
		Other constituents					PO ₄ 0.35				Tot. Alk. 213 Po $_{4}$ 0.40					
		(Silico (Silico					16		-		121					
	lion	Boron (B)	0.3	0.2	ं	0.1	0.3	0.2	0.1	0.2	0.2	0.2	0.3	0.3		
	per million	Fluo- ride (F)					0.3				0.0					
		Ni- trote (NO ₃)					0.0				0.03					
MIC) W	equivolents	Chio- ride (CI)	3.24	17	98 2.75	36	25	24	99.0	0.59	28 0.79	1.35	2.79	1.38		
THE COPIO	⊆	Sul - fate (SO ₄)					1.17		1.06	39	57		186 3.87	135		
Man Moor	constituents	Bicor- bonate (HCO ₃)	29.6	85 1.39	291	2.72	2.43	168	3.33	3.39	3.33	3.28	5.39	2.09	 	
COLUCK INCOGE MEAN COLUCK (SIN. 01)	suoo lo		00.00	00.00	000	00.0	00.00	0.00	000.0	00.0	5.0	0.00	00:00	00:00		
5	Mineral	Potos- C Sium (K)	0 3		010		25.4 0.00		012	0 3	0.05	010	0 0	010	 	
		Sodium P	167 7.26	36	151	56	848	52	2.31	2.13		3.65	150	3.92	 	
		Mogne- S sium (Mg)					1.14				20					
		Colcium (Ca)	5-83	1.39c	5.86°C	3.08c	22	2.36	2.88c	2.76°	23	3.45c	≥ .68°	2.91	 	
ŀ		H &	8.1	7.3	9.5	0.20	F. 50	C.:-	7.7	77.	7.6	7.5	200	8.15		
	Soecific	(micromhos of 25°C)	1,260	297	1,170	531	415	428	18th	974	513	692	1,130	969	 	
		15 (89	83	80	87	83		82	83	82	73	16	78		
		Dissolved oxygen ppm %Sc	10.6	9.1	9.5	8.1	7.1	<u>†</u>	φ. Φ.	7.1	7.4	7.7	9.8	 	 	
		GEO U	770	52	55	19	47	81	78	75	70	26	54	55		
		Discharge Temp	262	2,730	337	327	1,120	1-	612	856	675 (est.)	No Record	154	1,174		
		ond time sompled P.S.T.	1/12	2/15 1215	3,15	4/13 1030	5/7	5421 31/3	7/17	8/20 1020	9/19	10/17	11/27	12/18		

Field pH

b Loboratory pH.

c Sum of colcium and magnesium in epm.

c Sum of colcium and magnesium in epm.

d Iran (Fe), oluminum (AI), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr *6), reported here as 0.0 except as shown.
0.00

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves.

g Gravimetric determination.

h Annyal median and range, respectively. Calculated from analyses of duplicate monthly samples made by Colifornia Department of Public Health, Division of Laboratories, or United Stotes Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health (LADPH); Son Bernardino County Flood Cantrol District (SBCFCD), Metropoliton Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Lobarations, Inc. (TTL); or California Department of Water Resources (DWR); os indicated.

CENTRAL VALLEY REGION (NO.5)

CONTRA COSTA CANAL AT 1st DIMP LITT (STA 100s)

۲															
		Anolyzad by i		USBR											
		Hordrass bid Coliform as CoCO ₃ ity MPN/ml													
		1 P G C													
		00000 -													***
-		Hordr Totol													
-	-	D D E	-	017	41	94	45		36	36	L+1	51	L+1	94	51
-	Tot	solide in pom	_	ħ19	620	084	288	144	130	152	228	560	252	324	708
		Other constituents													
		Silico (SiOg)		·								•			
	lion	5			0.54										
ga,	per m	Fluo- ride (F)													
oorts oer million	equivalents per million	NI- trote (NO ₃)		177	9.3	4.3	1.2	0.62	0.0	0.62	0.0	0.0	1.2	1.9	1.2
LIFT.	e duiv	Chlo- ride (Cl)		138	146	95	55	8	92	22	84	84	82	82	114
TRC FOM	E 13	Sul - fots (\$04)		169	160	116	56	ৱ	24	54	53	35	77	82	72
NAL AL	constituents	Bicar- bonate (HCO ₃)		115	115	109	80	54	88	88	92	80	96	108	115
CONTRA COSTA CANAL AT 180 FUMP LIFT (SIA, 1098)	Mineral con	Carbon- 010 (CO3)		0:0	0.0	0.0	0:0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SOINT KA	Mir	Potas- sium (K)		3.9	3.9	2.7	1.6	1.6	1.3	1.2	1.6	2.3	2.0	2.3	د. د.
		Sodium (No)		8	8	73	77	87	82	81	35	125	777	55	75
		Mogne- sium (Mg)		34	33	88	23	7.8	7.2	اھ	12	피	13	19	18
		Colcium (Co)		53	26	36	22	괴	15	14	14	8	8	772	32
-		E o		7.4	7.6	7.4	8.1	6.8	7.4	9.2	7.8	7.6	7.5	7.5	7.6
	Specific	conductance (micromhos at 25°C)		980	941	742	1,36	213	252	222	339	465	904	595	674
		Dissolved orygen													
		T en		277	52	54		₫	73	77	11	22	62	59	54
		Dischorge Temp in cfs in OF													
	(ond time compled P.S.T.	1962	1/22	2/12 1400	3/12	4/18 1000	5/16	6/18	7/16	8/20	9/20	10/17	11/14	1355

o Field pH.

b Laboratory pH.

c Sum of colcium and magnesium in epm.

d transfer containing the second (Ref.), proper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown.

f Determined by addition of analyzed constituents. e Derived from conductivity vs TDS curves

g Grovimetric determination.

h Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Medith Service (USPHS), San Bernardino County Flood Control District (SBCFCD), Materapholiton Water District of Southern California (WMD); Los Angeles Department of Water and Power (LADWP), City of Las Angeles, Department of Public Health (LADPH); City of Las Beach, Department of Public Health (LADPH); City of Las Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL), at California Department of Water Resources (DWR), as indicated.

CENTRAL VALLEY REGION (NO. 5) COSUMNES RIVER AT MCCONNELL (STA. 94a)

		Anolyzed by i		UEGE											
		Hordness bid- Coliform Analyzed os CoCO ₃ ily MPN/mil by i Total N C. n ppm		Median 28.	230. Minimum	0.									
	1	- Padd		m	9	15	33	10	C/			-		5	Φ
		aCO3 N C.		2	5	m	0	C	0					0	0
		Hordr Total		27	4	94	22	15	18					54	L11
	d	ing of the property of the pro		17	S	19	25	₹	21					18	श्र
	Total	solved solved in ppm		786	16°	87	0 17 17 0 17 17	36	36°					100€	87.
		Other constituents						ABS 0.0; POl 0.0G							
		Silica (SiO ₂)						12							
	Hion	Boron (B)		0:0	0:0	0.0	0:0	0.0	0:0					0:0	0:1
0.11.0	per million	Fluo- ride (F)						0.1							
acitica ner	equivolents	frote (NO ₃)						0.00							
1	equivo	Chio- ride (CI)		0.13	3.1	3.8	0.04	2.0	0.05					2.8 0.08	0.13
	č	Sul - fats (SO ₄)		_				0.00							
	stituenti	Bicar- bonate (HCO ₃)		0.80	115	52 0.85	29 0.18	25 0.36	2,41					69	0.95
	Mineral constituents	Carbon- ote (CO ₃)		0.00	0.00	0.00	0.00	0.00	0.00					0.00	0.00
	M	Potas- (K)						0.0							
		Sadium (Na)		3.9	4.8	5.1	3.5	2.2	2.3					5.3	0.21
		Magne- sium (Mg)						0.0							
		Calcium (Ca)		0.84e	0.84°	0.93°	0.111c	4.8	0.37e					1.03	9.995
		PH PH		7:5:	7:1	7.7	2:5	7:1	7.2					7.4	7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 -
	or Judge	conductonce (micromhos at 25°C)		1.04	70%	116	59	24	118					134	116
		1-		Li.	001	100	66	98	103					105	8
		Dissolved oxygen ppm %Sc		13.9	11.9	10.9	10.3	9.4	80.0	ÇLQ	Dry	Dry	Dry	10.5	11.2
-		Tenp in OF		7.00 7.00 7.00	917	53	2.1	62	92	led -	led -	led -	led -	99	9
		Oischarge Temp		3.0	61	019	ŋ69	510	124	Not Sampled	Not Sampled	Not Sampled	Not Sampled	16	-7 (
		ond time somplisd P.S.T	1965	1/8	2/6	3/5	1/4 1110	5/10	6/6	1/5	8/8 1340	9/11	10/2	11/8	1340

o Field pH

b Laboratory pH

c. Sum of colerum and magnesium in epm.

c. Sum of calctum and magnessum in opm.

d. Iron (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as 0.0 except as shown.

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

Annual median and range, respectively Colculated from analyses of duplicate monthly samples made by Colifornia Department of Public Health, Division of Laboratories, or United States Public Health Service

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Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TIL), or California Department of Water Resources (DWR), as indicated.

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5) COSUMNES RIVER AT MICHIGAN BAR (STA. 94)

		Analyzed by 1		SDSN				_								
	4	bid - Coliform" ify MPN/mi		Median 23.	77000. Minimum	0										
	T or -	- pid 11, 10, 10, 10, 10, 10, 10, 10, 10, 10,		N	5	m	m	50	ч	N	α	91	CU	2	н	
		Hordness as CoCO ₃ In Total N.C.		17	7	ν.	0	0	0	0	0	0	0	N	0	
		Total ppm		07	77	45	20	14	15	56	31	39	17	54	710	
	- S C	sod -		17	81	18	23	25	23	72	22	19	21	17	18	
	Total	solids in ppm		₆₉	73e	83	⁷⁰ е	36 ^f	31 ^e	₽ ² 7	67 ^e	65 ^f 66 ^g	74e	96e	826	
		Other constituents						PO ₄ 0.00				As 0.00; ABS 0.0;				
		Silico (SiO ₂)						15				16				
	lion	Boron (B)		000	0.1	0.0	0:0	0.1	0:0	0.0	000	000	0:0	0:0	00	
million	per million	Fluo- ride (F)				-		0.0				0.0		-		
parts per million	equivolents p	Ni- trote (NO ₃)						0.0				0.0				
1	equiv	Chio- ride (CI)		3.2	3.8	1.8	2.0	2.0	2.1	0.03	3.0	2.0	4.1	3.5	0.13	
- 1	ē	Sul - fote (SO ₄)						0.05				3.0				
	constituents	Bicor- bonote (HCO ₃)		0,66	42	08.0	27 0.44	20 0.33	22	35	39	51 0.84	56.0	64 1.05	56 0.92	
	Mineral con	Corbon- ofs (CO ₃)		0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	00.0	00.00	
	Σ	Potos- Sium (K)						0.9				0.03				
		Sodium (No)		3.7	0.18	0.50	2.7	2.2	0.00	3.6	0.18	4.4	5.1	5.0	0.20	
		Mogne- sium (Mg)						0.0				0.35				
		Colcium (Co)		0.800	0.810	0.91	0.40	4.4	0.30	0.520	0.62°	8.6	0.82	1.08°	0.92	
	ed	Hd		7.5	7.5	7.5	7.5	7.5	7.1	7.6	7.5	7.6	7.6	7.5	7.7	
	Specific	(micromhos ot 25°C)		93	66	112	75	88	24	79	8	76	100	129	==	
		15		108	101	103	%	101	106	011	108	117	117	901	8	
		Oisso oxyo ppm		12.4	11.8	11.4	10.3	10.2	9.6	8.7	8.9	9.6	10.0	10.3	11.2	
		Te ni		767	83	52	96	65	69	82	78	92	7/2	29	8	
		Dischorge Temp		23	39	510	810	545	210	24	17	15	4.3	24	8	
		ond time sompled P S.T	1962	1/8	2/6	3/5	4/4 1315	5/10	6/6	7/5	8/9	9/11	2/01	11/7	12/6	

b Laborotory pH

c Sum of calcium and magnesium in epm.

c. Sum of calcium and magnesium in epm.
d. Iron (Fe), aluminum (AI), aresented here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Grovimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitian Water District of Southern California (WWD), Los Angeles Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Lobaratores, Inc. (TTL), or California Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

CENTRAL VALLEY REGION (No. 5)

COTTONWOOD CREEK NEAR COTTONWOOD (STA. 12b)

		Analyzed by 1	USGS			-								
		Hordness bid Coliform os CoCO ₃ ity MPN/mil	Maximum 2,400.	Minimum 0.23	Median 62.									
		- pid - th mdd u		250	01	15	~	· Λ	ر.		in.	m	mi	10
		Second No.	17	œ	01	10	m	C/I	0	0	C	0	s	٦
			174	70	104	79	.8	16	85	74	73	77	108	111
	٥	Sod -	13	21	16	15	17	16	19	23	20	21	17	16
	Tatol	dis- solved solids in ppm					125 ^f				119 ^f 120 ^g			
		Other constituents					PO, 0.00				PO _{1, 0.00}			Tot. Alk. <u>128</u>
		Silica (SiO ₂)					02				27			
1	Lion	5	0.0	0.0	0:0	0.1	0.1	0.0	0:0	0.0	0:0	0:0	0:1	051
507	per million	Ftuo- ride (F)					0.0				0.0			
COLIONWOOD CREEK NEAR COLIONWOOD (SIA. 125	<u>ة</u>	_ :					0.0	_			0.00			
CONWOOD	equivolents	Chlo- ride (C!)	18	6.4	7.0	7.0	6.7	5.5	7.8	0.11	0.11	6.6	0.34	0.28
EAR COL	<u>_</u>	Sul - fate (SO ₄)					9.0				5.0			
CKEEK N	constituents	Bicar- bonate (HCO ₃)	118	1.23	116	00	101	109	112	1.02	1.62	26.17	134	2.05
COMMODI	Mineral com	Corbon- ote (CO ₃)	0.00	00.00	00.00	00.00	0.00	0.00	00.0	00:0	0.00	000	00.0	0.03
Col	Σ	Potas- sium (K)					0.03				1.0			
		Sodium (No)	12	8.6	9.0	6.4	9.5	7.9	9.1	9.1	8.6 0.37	8.6	9.9	9.0
		Magne- sium (Mg)					8.3				8.8			
		Calcium (Ca)	2.27	1.39°	2.080	1.58	21	1.82	1.71c	1.480	15 0.75	1.42	2.10	2.23
		BH B/b	8.0	7.5	7.5	7.5	7.7	7:7	8.2	7.7	2.1 2.1	7.4	88	8.3
	Charles	conductonce (micrombos at 25°C)	272	173	238	177	194	201	201	178	174	170	255	245
		15	76	91	76	%	107	101	111	129	108	120	104	66
		Disso ory ppm	11.2	10.2	10.9	9.5	9.6	4.8	9.5	10.3	7.6	11.0	10.8	11.4
		Temp in of	84	51	877	61	68	78	78	81	70	68	57	67
		Dischorge Temp	120	2,600	930	920	403	330	82	09	58	06	125	000
		ond time sompled P.S.T.	1/11	2/9	3/14	4/11 1205	5/3	6/8	7/3	8/2	9/14	10/2	11/1 1435	1130

o Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

c. Sum of colcina anginesium in epin.

d. Iran (Fe), oluminum (AI), areacic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr⁺⁶), reported here as 0.0 except as shown. e Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolition Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

		Anolyzed by i	USGS											
		Tur- bid-Coliformh 5 hopm MPN/mi												
		Tur- bid- ity in ppm	CV.	250	15	8	ч	CU .	ч	CU	rV.	Н	ч	v
		S C N		12	2	N	m	0	0	0	0	m	Н	a
		Hard Os Co	108	78	92	77	96	103	103	116	122	111	117	117
		Cent Cent Ium	17	18	13	7	7	12	174	16	16	22	15	13
	1	solved solved solids in ppm					128f				170 ^f 169 ^g			
							_							
		Other constituents					PO1, 0.00				Pol _t 0.00			Tot. Alk. 140
		Silico (SiO ₂)					57				12			
. 11a)	100	1 8	00	0.0	0:0	0.0	0:0	0.0	ं।	0.0	0:0	ं	2.0	0.0
K (STA	million not million	Flug-					0.0				000			
COTTONWOOD ORGEN BELOW NORTH FORK COTTONWOOD CREEK (STA. 118)	ports per million	1					000				0.00			
MNOTTOC	1	Chla-	1200.34	3.3	3.8	1.4	6.6	5.5	8.5	0.28	16	20	9.5	0.20
FORK (<u>c</u>	Sul - fote (SO ₄)					8.0				7.0			
OW NORTH	constituents	Bicor- banate (HCO ₃)	1.95	81	106	91.19	11.85	128	127	2.39	2,44	132	142	136 2.23
WEEK BEL	Mineral con	Carbon-	00	00.0	0.00	00.00	0.00	00.00	0000	0,00	00.00	00.0	00	0.07
NAOOD OF	Min	Potos- Srum (K)			-		0.03				1.1			
COLLO		Sodium (No)	10	7.9	6.4	4.7	5.7	6.7	8.1	10	0.48	0.01	0.40	0.35
		Magne- srum (Mg)					111				13			
		Calcium (Co)	2.15	1.52	1.540	1.540	21	390.3	2.07°	2.32°	28	2.22°c	2.34c	25.33.
		# (B	2.5	7.5	7:7	7.0	8 .0	8 8	8 8 8	0 00	200	7.7	77.0	<u>π</u> . ω
	;	Specific conductance (micromhos at 25°C)	247	183	203	165	201	222	231	292	279	566	560	549
		1 =	8	84	*	3.	8,	95	401	101	86	102	100	102
		Dissalved oxygen ppm %Sc	11.5	10.4	7.17	7.	8.5	œ ش	α. 	6.7	8-3	9.3	10.0	9.11
		Te and	T 77	2	94	1 79	73	70	93	75	70	69	09	8
		Discharge In ofs Est. by	m	2004	250	100	100	80	35	18	18	30	30	100
		and time sampled	1,11	N.C.	3/14	11/11	5/3	8/9	7/3	8/3 0915	9/14	10/2	11/2	12/7

b Laboratory pH

Sum of calcium and magnesium in epm.

Sum or calcum and inclusion in Epin.

Iron (Fe), aluminimed (St. * 5), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by oddition of analyzed constituents. Derived from conductivity vs TDS curves

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service (USPHS); San Bernardina County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (WMD); Los Angeles Department of Mater and Power (LADMP); City of Los Angeles, Department of Mater Department of Water and Power (LADMP); City of Los Angeles, Department of Southern California (Department of Mater Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

		F	ءِ آھَ:			(7)	
			Hordness as CoCO ₃	υ E Z d	64	10	23
				Tatol	161	89	168
		0	og - E		23	22	20
		Totol	solids	mdd u			
			Other constituents				
<u></u>			Silico	(2 0 0 0 0			
W. 111		llion	Boron	<u>0</u>	0:0	0.0	0.0
EK (SI	million	ier mi	Fluo- Boron Slico	E.			
YOOD CRE	ports par million	equivolents per million	- i2				
COLTON	ă	equive	Chlo-	ĵ	1.30 1.30	7.6	18
K ABOVE	9		Sul -	(80°)			
NUTH FOR			Bicar -	(HCO ³)	137	71.16	177
COTTONWOOD CREEK, BOUTH FORK ABOVE COTTONWOOD CREEK (SIA. 11b)	Moses in the second		Potas- Corbon- Bicar-	((00)	0.0	0.00	0.0
NWOOD C	2		Potos-	(¥)			
COLLO			Colcium Mogne- Sodium	(ON)	22	8.7	13
			Mogne-	(Mg)			
			Cofcium	(60)	3.22	1.35	
			I	a/b	7.5	7.5	7.9
		Spacific	Dissolved conductonce poxygen (micromhos poxygen (micromhos poxygen)		423	166	387
			pan	%Sof	101	88	76
			Dissol	ppm %Sof	12.2	10.3	9.01
			_				

Dischorgs Temp in cfs in 9F

Est. by Sempler

Dots ond time sompled P.S.T.

54

13

5

2004

2/9

Anolyzed by i

Tur-bid-Coliform Ify MPN/ml

USGS

350

9

23 7

20 18

0.0 0.0

0.51 7.8

19 8.3

> 3.36 1.64

> > 2,0

192

86

9.1

67

150 001

17/11 5/3

53

125

3/14

 \prec CVI

.7

76 89

18

134£

110 109

0.00 Alk

킈

0:0 0.0

0.01

0.00

0.28

12 0.25

107

0.03

9.7

6.4

1.35

88.1

223

66

8.3

17

95

0.0

9.5 14

103

3

0.44 1100

7.8

216

97

8.3

7

9

6/8

103 2.43

3 0.10

1.85

231

124

9.5

89 72

20

1/3 3/3

0.00

13

2,400

50.

289

96

7.7

DHY DRY

0

20

Tot. Alk. Tot.

35

82

-1 Cil

 \sim 0

93 120

2

110

Tot. Alk.

19

0:0 0.1

_			 7
			1
	CV CV	t-	
	15	CI CI	
	127	001	
	23	21	
		Tot. Alk. 119	
	0.3	0.1	
_			-
			 1
	28 0.79	16 0.45	
	13 <u>1</u> 2.25	1.87	
	00.00	0.07	
	17.0	0.52	
		Z 5.01°	
_	2,0	₩	
	327	87.2	
	109	100	1
	8.6	11.5	
	2		
	50		
1120	11/1	12/7	

b Loborotory pH

c Sum of calcium and magnesium in epm.

Jum of Catclium and magnessian in Eqn. Iron (Fe), aluminum (A1), arsente (A2), copper (Cu), lead (Pb), manganese (An), zinc (Zn), and hexavolent chromium (Cr⁺⁶), reported here as 0.00 0.00 Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Grovimetric determination

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

except as shown

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardina County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Southern California Department of Water Resources (DWR); as indicated.

Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL): or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

-														
		Analyzed by i	USGS											
		bid - Coliformh												
Ì		- pid -	QI	250	٥	9	CVI	15	<i>~</i> ‡	ľ	_	10		5
1		N C.	0	-7	H	Q	0	0	0	0	0	0		C
		Hord as Co Total ppm	99	25	64	177	37	50	09	92	78	73		± 4 10 ± 10 ± 10 ± 10 ± 10 ± 10 ± 10 ± 10 ±
		sod -	50	21	50	22	22	Z Z	22	72	83	25		70
	Total	dis- solved solids in ppm					77.f				140f			
		Other constituents					PO1, 0.00				PO _{1, 0.05}			
		Silica (SiO ₂)					53				23			
	ion	5	<u>ः</u> ०	0.1	0:1	0.0	0.0	0.0	0.0	0.1	0.0	0.7	0:0	0.0
	volents per million	Fluo- ride (F)					0.00				0.1			
4.88a)	ports per	_					0.0				0.0			
COW CREEK NEAR MILLVILLE (STA. 88a)	d Ainbe	Chlo- ride (Cl)	8.5	0.04	4.2	3.0	3.5	4.7	5.0	9.6	7.5	0.21	6.3	0.14
MILLIVI	c s	Sul - fote (SO ₄)					3.0				0.00			
EEK NEAL	constituents	Bicor- bonote (HCO ₃)	70	26	59 0.97	48 0.79	177 O	1.07	1.38	106	111	102	1.29	0.93
COW CH	Mineral co	Corbon- ote (CO ₃)	0.00	00.00	00.00	00.00	0.00	0.00	0.00	0.00	0.00	0.00	00.00	0000
	ž	Potos- sium (K)					0.03				0.05			
		Sodium (No)	7.6	2.9	5.7	5.1	0.50	0.26	7.8	11 0.48	11 0.48	11 0.48	0.30	0.28
		Magne- sium (Mg)					0.24				8.0			
		Colcium (Co)	1.32°	0.50	0.986	0.82	0.50	1.00°	1.20°	1.52	18	1.46°	1.24°	0.00
		PH 8	7.3	7.3	7.3	7.5	7.5	7:7	8.5	2)E	7.7	7.7	7.7	2.7
	2,9,0,0	conductonce (micromhos	154	62	125	16	95	119	151	191	199	187	155	121
			ę.	92	Lé	102	101	107	110	117	107	107	108	101
		Oisso Oxyg Ppm	11.6	10.4	77.77	10.4	9.6	9.0	80.	0.6	9.5	5.6	10.4	11.4
		E O E	7 77	50	L-77	53	69	73	82	85	75	77	±9	20
		Oischorge in cfs	146	9,520	600	508	410	120	51	7.3	77	35	136	575
		sond time	11 11 1460	2.3	3/14	4/11	5/3	6/8	7/3	8/2 1315	9/14	10/2	11/1	1520

o Field pH

b Laboratory pH.

c Sum of colorum and magnesium in epm.

c sum or catalom and magnessam in equi.

d Iron (Fe), aluminum (AI), reparted here as \$\frac{0.0}{0.00}\$ except as shown a long test of the sum of the sum

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Labaratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Benording County Flood Cantrol District (SBCFCD); Metropoliton Water District of Southern California (MMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Water Besources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or Colifornia Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)
DELTA CROSS CHANNEL NEAR WALNUT GROVE (STA. 98)

		Analyzed by 1		USGS													
	4	Hardness bid - Coliform A os CoCO ₃ ify MPN/mi Total N.C. nppm		Median 620.	77000. Minimum	ĵ.											
	Tur	bid- ity Inppm		30	140	25	92	25	30	15	7	2	7	200	35		
		800 N O O O O O O O O		m	7	ដ	9	0	9	m	0	0	0	0	0		
		Totol PPM		77	32	54	53	43	54	8	92	71	62	96	35		
	Per	sod -		8	23	23	23	59	31	32	34	75	98	8	72		
	Total	solids in ppm		139	54€	92°	93	82 [£]	106°	114	107	130 ^f 142 ^g	107e	100	55 ^e		
		Other constituents						ABS 0.0; PO4 0.15				As 0.00; ABS 0.0; Pol, 0.00					
		Silico (SiO ₂)						15				81				 	
-	million	Boron (B)		[]	0:1	0:0	0.1	0:	0.1	0:0	0:0	0.1	0:0	0:0	0:0		
millio	valents per mi	Fluo- ride (F)						0.0				0.0					
ports per million		Ni- trote (NO ₃)						0.0				0.0		•			
8	equiva	Chlo- ride (Cl)		0.34	3.5	15	5.2	7.0	8.0	9.5	9.3	11 0.31	8.3	7.4	3.6		
	_	Sul - fore (SO ₄)						10 0.21	19			7.0					
}	ifituents	Bicar- bonate (HCO ₃)		%F:	31 0.51	52 0.85	57 0.93	52 0.85	59 0.97	70	78	102	82	1.21	44		
	Mineral constituents	Carbon- ate (CO ₃)		0.0	0.00	0.0	00:00	0.00	0.0	00.0	0.00	0.0	0.0	0,0	0.00		
:	Min	Potas- C sium (K)						0.03				0.03					
		Sodium (No)		0.65	0.18	7.4	7.4	8.2	170	13	114	0.74	11 0.43	1100.118	4.2		
		Mogne- sium (Mg)						3.8				8.6					
		Caleium (Ca)		1.54c	0.64°	1.09°	1.06°	0.55	1.080	1.20°	1.17°	14 0.70	1.24°	1.12°	0.69°		
		D H d		7.5	7:1	7.1	7.5	7:7	7.0	6.9	7.6	7.1	7:4	7.3	7.1		
	Specific	(micramhos at 25°C)		220	85	146	147	120	167	180	169	208	170	158	87		
				06	96	95	16	8.	93	78	76	73	7/	98	36		
		Dissolved oxygen ppm %So		10.8	10.9	10.9	8.6	8.7	3.6	7.5	8.3	9.9	6.8	8.7	10.5		
		Te or		94	641	64	57	63	69	202	17	69	19	65	50		
		Dischorge Temp in cfs in oF	Tidal														
		ond tims sompled P.S.T	1962	1/10	2/13	3/7	h/5 0935	5/9	6/11	7/11 0955	8/6	9/4 1015	10/3	11/8	12/5 1245		

b Laboratory pH

e. Sum of colcium and magnesium in opm. deliber (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as 0.0 except as shown. d.iran (Fe), aluminum (Al), assente (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as 0.0 except as shown. c. Sum of calcium and magnesium in epm

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Bronch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), Son Bernardino Country Flood Country Flood Country Flood Country Metropoliton Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH), Terminal Testing Lebarations, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, at United States Public Health Service.

ANALYSES OF SURFACE WATER TABLE 8-14

CENTRAL VALLEY REGION (NO. 5)

DELTA-MENDOTA CANAL NEAR MENDUTA (STA. NO. 92)

		pez/		10												
		Analyzed by i		USGS												
		S Ify MPN/mi		X contraction of the contraction	56. Maximum	Minimum C.06								_		
	Tur	- bid - ty - ngan			m	01	15	20	25	50	ς,	22	e	50	25	w
		de CaCOs	za		0	179	161	55	59	277	23	56	31	22	717	
			Tatol		25	324	309	126	8	77	8	108	122	106	1.94	189
_	Per	sod -	-		<u>Q</u>	S	굯	25	971	17	677	8	62	52	75	75
	Toto	solved	r gg						207				292			
		Other conceptors							ABS 0.0 PO _L 0.90 AS 0.02				ABS 0.0 PO _L 0.25 AS 0.01			
	ŀ	Silica	2005)						18 A P P				된			
	upi	Boran S	(B)		5.0	0.7	0.7	7:0	0:0	0.1	0.0	0.1	0.1	0.1	1	2,0
million	er millian	Flua-B							0.1				0.1			
ports per million	equivalents per		(NO ₃)						1.4 0.02				1.1 0.02			
ports per			((C)		163	221	223	2.17	1.21	39	1.35	68	80 2.26	72 2.03	11.6	3,89
			(\$04)						0.85				0.83			
	CONSTITUENTS		(HCO ₃)		160	177	180	87	74 1.21	1.07	82 1.34	100	1.82	102	146 2.39	144 2.36
	- 1	- nodra:	(CO _S)		0.00	0.00	0000	0.00	0000	0.00	0.00	0.0	0.0	000	0.00	0.00
2	Minerol	Potos-	E(X)						2.1 0.05				2.6			
		Sodium	(0N)		5.31	152	168	62 2.70	36	32	39	50	58 2.52	51,1	106	102
	ĺ	fogne-	(Mg)						9.7				1.1			
		Calcium	(Co)		5.03	87.9	6.18	25.52	1.00	1.51	1.80	2.16		2,12	3.88	3.78
		Ę.			8.1	0.8	8.1	7.7	7.8	7.3	7.9	7.7	8.1	7.7	8.2	8.1
	Specific	conductance (micramhas	01 22 0		1100	1360	1360	27.6	352	307	359	1,1,1	522	797	885	850
			%Sot		103	101	76	93	96	16	85	83	8	76	96	92
		Oissolved	mdd		11.9	12.1	11.2	8.9	8.7	8	6.9	7.3	7.7	8	9.6	10.0
-		Temp In oF	1		977	977	877	62	89	%	80	73	75	89	62	8
		Oischarge Temp			ì	1	-		1 1	1 1 1			# 0 1	i i	1	!
			T.S.P	1962	1/11	2/7 0935	3/1	1/5	5/1 1530	6/5	7/3	8/8 07/0	0060	10/5	11/9	1200

a Field pH.

b Laboratary pH.

c. Sum of colcium and magnesium in epm

c. Sum of colcium and magnesium in epm. decept (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{*5}), reported here as 0.0 except as shown. d.ino (Fe), aluminum (Al), orsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{*5}), reported here as 0.00 except as shown. Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Grovimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service (USPHS); Son Bernardino County Flood Cannot District (SBCFCD), Mercopalitan Water District of Southern California (AWD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Water Branch Cannot District of Southern California Department of Water Branch (AWD), son Survice (BDPH); City of Los Angeles, Department of Water Resources (DWR), as indicated.

TABLE

CENTRAL VALLEY REGION (NO. 5) DELTA-MENDOTA CANAL NEAR TRACY (STA. 93)

		0															
		Anolyzed by i			USGS												
		MPN/ml			Median 50.	Minimum											
	ž	- pid			CU	35	25	82	2	50	4.5	45	07	01	30	15	
		0	za		176	127	61	96	22	8	14	ı	6	35	19	7.3	
			Total		344	281	145	927	79	772	7/4	80	48	150	1,88	148	
	Par	Cent Cent			52	93	75	64	4,1	64	77	22	53	53	25	55	
	Total	solved solids	E 00 E		811 ^e	743	374e	303	170£	174°	151e	177°	214 ^f	373	473e	410	
		Other constituente							ABS 0.0; PO4 0.00				As 0.00; ABS 0.1; Po ₁ 0.05				
		Silica	12010)						23				15				
	miffion	Boron	ĵ		1.0	1.0	0.5	0:0	0.0	0.1	0:0	0:0	0.5	0.1	0.2	0.5	
million	per mis	F tuo-							0.2				0.0			_	
ports per million		120							0.8	_			0.9				
od	equivolents	Chlo-	ĵ		252	214	2.68	76	37	1.27	31 0.87	43	53	3.13	3.95	3.39	
	u1	Sul -	(80%)						31 0.65				25 0.52				
	constituents	Bicor	(HCO3)		3.36	168 3.08	103	88	70	1.08	73	84	92	2.29	148	2.08	
	Mineral con	Corbon-	(°00)		0.00	0.0	00.00	00.00	0.00	0.00	0.00	0.00	0.00	0.0	000	0.00	
	Mine	Potos-	(X)						2.3				2.1	-			
		Sodium	(ON)		168	175	3.39	56	26 1.13	33	27	36	1.95	3.39	102	83	
		Mogne-	(Mg)						8.9				9.5				
		Colcium	(00)		೨೫೫.೨	5.62°	2.91°	2.56°	17	1.47c	1.748°	1.60°	0.90	3.01°	3.76°	2.96°	
	αđ	P.			7.5	7.6	7.7	7.5	7.3	8.6	7.3	7.5	7.4	7.6	7.6	7.4	
	Spacific	conductonce (micromhos	2 2 5		1440	1320	999	538	293	309	509	315	368	662	8160	729	
-			%Sat		88	77	96	68	78	103	77	85	8	001	33	19	
		Diesolved	6 wdd		10.5	8.3	9.5	8.1	7.5	9.2	6.5	7.2	7.6	9.1	0.	7.5	
-		Temp n oF			94	4,5	61	98	70	22	22	75	75	88	19	2	
		Discharge Temp			₽ 89	0	0	2550	3300	3300	4150	3300	2510	1700	860	0	
		Oote ond time	P.S.T	1962	1/11 0950	1405	3/8	4/11 1335	5/8	9/9	7/10	8/8	9/6	10/4	11/14	12/1)	

b Loborotory pH

c Sum of coloium and magnesium in epm.

c. Sum of colcium and magnesium in epm. d. opper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+S}), reported here as 0.0 except as shown. d. ivenum (Al), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Al), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+S}), reported here as 0.00 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardina County Flood Control District (SBCFCD); Metropolition Water District of Southern California (MWD), Los Angeles, Department of Water and Power (LADMP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service. Grovimetric determination.

ANALYSES OF SURFACE WATER TABLE B-14

CENTRAL VALLEY REGION (NO. 5)
DELTA-MENDOTA CANAL BELOW TRACY PUMPING PLANT (STA. 93)

		Analyzed by 1		USGS														
	4	Coliform MPN/ml																
	Turl	- piq i i k u ppiq u																
		Hardness os CoCO ₃ Total N.C.		124	133	53	L+1	23	8	2	97	63	. 53	- 33	- 25	ਸ —	92	23
L				8 	5962	135	130	81	132	± €	119	147	L27	102	81	51	98	91
		sod -		- 25	25	53	25	L17	25	6,17	677	17 2	64 8	3	3 45	4.5	7 47	3 45
	Totol	solved solids in ppm		7998	778 ^f 8298	365 ^f 382 ^k	336 ^f 355 ^g	192 ^f	333 [£]	231 ^f 2408	3068 3068	365 ^f 3788	303 ^f 3128	233 ^f 2348	184 ^f	120 ^f	204 [€]	206 ^f 2148
		Other constituents		Fe 0.00	Fe 0,00	Fe 0.19	Fe 0.09	Fe 0.22	Fe 0.10	Fe 0.09	Fe 0.03	Fe 0.03	Fe 0.04	Fe 0.07	Fe 0.06		Fe 0.09	Fe 0.04
		(SiO ₂)	9	R 	95	91	 61	17	81	61	81	17	91	15	15	15	위	1.5
u.	million	Boron (B)		0 8	0.8	9.0	4.0	0.3	4.0	0.0	0.3	0.4	0.3	0.2	0.1	0.1	0.1	0.1
million	per	Fluo- ride (F)		0.0	0.2	0.0	0.2			0.2	0.2	0.2	0.2	0.1	0.3		0.02	0.0
ports per	equivolents	rote (NO ₃)		0.06	3.5	2.8	2.5	2.1	0.04	0.03	0.02	3.0	3.2	3.9	70.0	2.8	2.5	1.9
	equi	Chlo- ride (CI)	1	232	221 6.23	2.93	79	38	2.20	50	69	95	2.12	1.55	1.18	26	1.35	1.35
- 1	ul si	Sul - fote (SO ₄)	-	2.94	3.31	71	73	36	70	0.98	61 1.27	75	62 1.29	0.90	30	16	31	31 0.65
	constituents	Bicor- bonote (HCO ₃)		3.33	3.26	1.64	101	71 1.16	1.64	78 1.28	86	103	87:	1.26	89 II:	77.0	73	83 1.36
	Mineral co	Corbon- ote (CO ₃)		0.00	0.00	0.0	0.00	0.00	0.0	0.0	0.00	0.0	0.00	0.00	0.0	0.00	0.0	08.0
:	Ē	Potos- Sium (K)		0.13	5.2	3.1	2.6	2.1	2.5	2.1	2.2	2.7 0.07	2.5	0.00	0.05	1.4	2.1	2.6
		Sodium (No)		7.09	167	3.09	66	34	66 2.87	1.83	2.39	73	2.52	1.83	32	0.78	36	36
		Mogne- sum (Mg)		2.70	34 2.79	1.20	1.20	8.8	1.19	0.83	1.08	16	1.15	0.89	0.62	3.9	7.5	9.4
		Colcium (Co)		3.09	3.14	30	28	81.0	1.45	21 1.05	26	32	28 1.40	23	1,00	114	22 1.10	21 1.05
		OH OH		7.5	9.7	7.4	7.5	7.3	7.4	4.7	7.7	7.9	7.8	7.5	7.7	7.7	7.5	7.7
	Specific	(micromhos ot 25°C)		1310	1360	617	582	325	580	393	508	049	525	396	317	194	340	353
		Oissolved oxygen ppm %Sat																
	6	E E																
		Dischorge in cfs M. D.		340	916	110	142	760	322	614	1311	2380	2740	2930	3190	3010	2630	2920
		ond time sompled P.S.T	1962	1/27-31	2/1-9	2/20-28	3/1-6	3/7	3/8	3/9-16	3/17-31	4/1-10	4/11-20	4/21-30	21-1/5	5/13-14	5/15-31	6/1-4

b Laboratory pH.

c Sum of calcium and magnesium in epm.

c. Sum of coloum and magnesium in spm. d. Iron (Rb), manganese (Mn), zinc (Zn), and hexovalent chromium (Cr⁺⁶), reported here as 0.00 except as shown. d. Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexovalent chromium (Cr⁺⁶), reported here as 0.00 except as shown.

e Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

g Grovimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Lobaratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Surveau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardino County Flood County Flood County Flood County Flood Poser (LADWP); City of Los Angeles, Department of Survey, Orales Beach, Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY RECTON (NO. 5)
DELTA-MENDOTA CANAL BRICH TRACY PUMPING PLANT (STA. 93)
[Continue]

		Analyzed by i			usas														
		bid - Coliform				-													
		bid -																	
		Hardness as CaCO ₃	D E G		=	1	32	13	6	9	77	10	117	2	25		76	9	94
			Total		62	02	104	76	7.1	69	69	92	5962	75	108	75	222	75	151
	4	Sad -			911	94 -	611	577	777	39	77	9	55	3	84	L+1	9	617	20
	Tatol	dis- solved	ndd ni		146 ^f 141 ^g	161 ^f 1568	2528	$\frac{171^f}{17^48}$	157f 1598	143 ^f 1478	150 ^f	181 1798	783f	182 ^f 1788	255 ^f	174f	537 [£]	180f	363 ^f
					Fe 0.01	Fe 0.04	Fe 0.06	Fe 0.13	Fe 0.03	Fe 0.01	Fe 0.03	Fe 0.06		Fe 0.09					
		Silica	(S)(S)		97	15	15	위	21	15	14	17	56	17	18	17	37	17	22
	million	Boran	<u>e</u>		0.1	0.2	0.5	0.1	0.0	0:0	0.0	0:0	0.7	0:0	0:0	0:0	0:1	0:0	ं।
	Der Jed	FIU			0.2	0.03	0.03	0.0	0.1	0.1	0.1	0.00		0.1					
	equivalents per million	I .	(NO3)		1.2	0.8	0.00	0.8	1.8	1.4	1.4	2.1	1.8	1.3	0.03	1.9	2.7	1.3	0.03
	Souiv	Chia-	(CD)		9.90	34	1.92	35	30	24	26	1.16	25th	42	69 1.95	39	170	1.18	3.02
(continued)	ē		(\$04)		0.37	22 0.46	37 0.77	23	20	19	200	22 0.46	3.12	19	30	18	25 1.15	18 0.37	96.0
	constituents	- Bicor-	(HCO3)		62	72 1.13	1.44	1.26	75	77	1.29	81 1.33	218	83	101	82	178	8 ⁴ 1.38	2.10
	Mineral co	Carban	(500)		0.00	0.00	0.0	0.00	0.00	0.0	0.00	0.00	0.0	0.0	0.00	0.0	0.00	0 0	0.0
	Ē	Potas			1.9	2.1	2.6	2.1	0.03	0.03	1.3	1.4	3.6	1.8	2.4	1.7	4.2	1.8	2.8
		Sodium	(C N		25	28	βη 2.09	29	26 1.13	21 0.91	25	33	172	35	2.09	32 1.39	106	34	3.09
		1 -	(Mg)		6.0	6.7	10	8.1	8.1	7.1	7.7	8.8	33	8.5	0.91	8.5	24 1.94	8.5	16
		Cafcium	(00)		15	0.85	25	0.85	15	16	15	16	3.24	0.80	25	0.80	2.50	0.80	34
-		P. D. P.			7.5	7.7	7.9	7.7	7.5	7.5	7.6	7.3	7.2	7.4	7.0	7.2	7.9	7.3	7.2
		conductance (micromhas			244	270	044	286	259	237	546	300	1330	307	1437	290	η26	302	633
		Dissolved	ppm %Sat																
		Temp																	
		Discharge Temp	M. D.		3530	3860	3930	3890	3820	0757	4160	3930	3890	3750	3580	3410	3410	3300	3300
		Dote and time	P.S.T	1962	6/5-11	6/12-21	6/22-23	6/24-30	7/1-10	7/11-20	7/21-31	8/1-5	9/8	6-1/8	8/10	8/11	8/12	8/13	8/14

a Field pH.

b Laboratary pH

c. Sum of calcium and magnesium in epm.

c. Sum of calcium and magnessum in Epin.
d. Iron (Fe), aluminum (AI), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reparted here as 0.0 except as shown.

Derived from conductivity vs TDS curves.

Determined by oddition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Bronch (USS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Separtment of Water and Power (LADWP), City of Los Angeles, Department of Survey, District of Southern California (WMD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR), as indicated.

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CENTRAL VALLEY REGION (NO. 5)
DELTA-MENDOTA CANAL BELOW TRACY PUMPING PLANT (STA. 93)
(contined)

	Anolyzed by i		USGS															
	Soliformh MPN/ml																	
-		T Page			7	<i>a</i>	30	0	95	00	21	m		53	94	88		
(continued) ports per million		Hardness as CoCO ₃ Total N.C.	82 10		113 24	62	120	85 10	176 5	833	92 1	171	11 68	2 221	171	127	195 54	94 17
	_	cent cent eod - as C tum Total	84		20 1	. 20	7 05	67	51 17	9	8	52 1	51	52 1	53 17	20 -	52	
		solids solids solids	191 [£]	918	273 ^f	191 ^f 1878	288 ^f	199 ^f 1948	425f	196f	226 ^f 217 ^g	423 ^f 4188	217 ^f 2268	319 ^f 313 ^g	1,24£	$\frac{313^{f}}{3168}$	478°	247£
	ļ.	1	A (121	či .	A)A	Ñ	ala —	.व	- -	ÑΙΝ		α/lα	mlm	- 	mlm —	च 🗔	ά
		Other constituents	Fe 0.04			Fe 0.06		Fe 0.03			Fe 0.04	Fe 0.01	Fe 0.01	Fe 0.02	Fe 0.00	Fe 0.01	Fe 0.01	Fe 0.05
		Silico (\$.02)	17	ı	61	19	81	81	81	81	ଥା	25	ध्य	23	72	%I	186	91
	million	5	0.0		0.0	0:0	0.0	0:0	0.1	0.0	0:0	0:0	0.0	0.0	0:0	0.0	0:0	0:0
	ie rec	Fluo- ride (F)	0.1	0.01		0.2		0.03			0.1	0.1	0.02	0.2	0.2	0.2	0.2	0.1
	constituents in equivolents	1	1.9	0.03	0.03	0.02	1.8	1.4	0.03	0.02	1.5	0.7	0.0	1.5	2.3	1.0	0.02	0.03
		Chlo- ride (CI)	717	1.24	2.09	1.18	81	1.30	3.84	45	55	3.47	57 1.61	88 2.48	3.39	86	142	61
		Sul - fate (SO ₄)	21	0.44	33	21	34 0.71	25 0.46	96.0	25 0.46	25 0.52	53	19	40	54 1.12	32	56	27
		Bicor- banate (HCO ₃)	88	1.44	108	92	1.80	91	146	91	1.61	150	95	120	152	121	172 2.82	1:54
	Mineral cor	Carbon- ote (CO ₃)	0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0000	0.00
	Min	Potas- srum (K)	1.9	0.05	0.00	1.5	2.5	1.7	3.4	1.8	2.1	3.4	2.0	2.6	3.2	2.8	3.8	2.2
		Sodium (No)	36	1.57	53 2.31	36	25.44	38	3.78	37	44	3.83	44 1.91	64	3.87	61 2.65	4.31	
		Mogne- sum (Mg)	10	0.84	1.01	8.4	1.15	0.9	17	10 0.86	10	19	0.88	1.14	1.52	13	1.60	0.89
		(Ca)	16	0.80	25	17	25	16	2.10	0.80	1.00	37	0.9	28	38	29	2.30	1.00
		Q Ha	7.4		7.3	9.7	7.9	7.5	7.4	7.3	7.5	7.9	7.7	7.5	7.9	9.2	7.9	7.4
		Specific conductonce (micromhos at 25°C)	330		7,68	314	1,98	338	192	327	379	728	373	549	740	544	834	1,02
		Dissolved oxygen ppm %Sot																
		Tenp in of																
		Discharge Temp	3720		3710	3650	3550	2940	2720	2560	2430	2250	2200	1870	1820	1770	1700	1740
		Date and time sampled P.S.T.	1962		8/22	8/23-25	8/26	8/27-29	8/30	8/31	6/1-5	1-9/6	6-8/6	9/10-14	9/15	2/16-17	9/18-19	9/20

b Lobarotory pH.

c. Sum of calcium and magnesium in epm.

c. Sum of calcium and magnessum in epm.

d. Iran (Fe), aluminum (A1), areasete (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*5), reported here as 0.00 except as shown.

f Determined by addition of analyzed constituents. e Derived from conductivity vs TDS curves

⁹ Gravimetric determination

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Survey and Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardino County Flood Control District (SBCFCD); Metropolition Water District of Southern California (WWD), Los Angeles Department of Mater and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH), Terminal Testing Laboratories, Inc. (TTL); or Colifornia Department of Water Resources (DWR); as indicated. h Annuol median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5)
DELTA-MENDOTA CANAL BELOW TRACY PUMPING PLANT (STA. 93)
(continued)

pazi

			Andlyz by i		USGS														
		2	MPN/mi																
		Tur	- pid - tdd u																
			Tatol N.C.		9	25	%	23	56	16	27	62	28	69	4.5	72	99	99	62
			- 1		194	104	200	112	186	8	114	201	123	902	152	198	187	192	176
		Per	Sod -		52	9	52	2	51	8	64	25	94	52	51	52	53	52	53
		Total	solved solids in ppm		473f	2 69 g	496£	278 ^f 279 ^g	450f	232 ^f	265 [£]	500 [£]	278 [£]	520 ^f 521 ^g	382 ^f	499 ^f	478f	491 ^f	450£
			Other constituents		Fe 0.00	Fe 0.03	Fe 0.00	Fe 0.03	Fe 0.00	Fe 0.03	Fe 0.08	Fe 0.01	Fe 0.08	Fe 0.05	Fe 0.04	Fe 0.01	Fe 0.01	Fe 0.02	Fe 0.01
		}	(Sion		27	251	21	<u>ध्रा</u>	201	10	177	52	김	81	%1	%]	92	- 23	133
	uo	million	Boron (B)	_	0:1	0:1	0:1	0:0	0:0	%	0:1	0:1	0.0	0.3	0.1	0:5	0.3	000	0.3
	Ē	ped	Fluo- ride (F)	_	0.1	0.1	0.2	0.1	0.1	0.01	0.2	0.0	0.1	0.2	0.3	0.0	0.0	0.0	0.0
	ports per	equivolents	frote (NO ₃)		0.02	1.7	0.5	1.4	2.6	0.02	0.02	6.1	0.03	5.7	3.1	4.4	6.4	6.7	0.08
-		equiv	Chlo- ride (CI)		3.95	69	14.20	78	130 3.67	63	74 2.09	156	74	155	3.10	151	3.86	142	3.64
(continued)	2	- 1	Sul- fore (SO ₄)		65	38	66	33	58 1.21	25	0.60	1.33	33	72	50	73	73	77 1.60	201.1
	sonstituents		Brcor- bonata (HCO ₃)		16 th	1.64	173	109	159	1.00	1000	2.79	116 1.90	2.74	2.13	154	2.43	154	139 2.28
	Moeral car	- 1	Corbon- ate (CO ₃)		0.00	0.0	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0 0	0.0	0 00	0.00	0.00	0.00
	M		Potos- Sum (K)		3.2	2.3	3.2	0.07	3.4	2.4	2.5	3.6	2.5	3.0	3.5	5.5	2.6	3.6	3.8
			Sodium (NO)		1.26	50	102	2.35	7.00	2.00	52.26	101	50 2.18	105	3.22	100	98	28	93
			Magne- sium (Mg)		21 1.73	13	1.70	13	21	12 0.96	$\frac{14}{1\cdot13}$	21	1.25	22 1.81	1.29	21	18	21 1.69	19
			Colcium (Ca)		43	21 1.05	2.30	24	0,10	1.00	23	45	24 1.20	2.30	35	2.20	2.25	2.15	39/11.95
			, I		8.2	7.5	8.0	7.7	7.8	7.1	7.7	7.4	7.6	1.6	7.5	7.5	7.5	7.9	7.3
		Specific	(micromhos of 25°C)		840	452	2888	1,95	811	423	1159	698	927	890	959	299	839	852	704
			Dissolved 0xygen ppm %Sot																
			Temple Temple																
			Dischorge Temp in cfs in oF M. D.		1800	1840	1840	2000	2020	1980	1940	1800	1730	986	846	186	133	727	777
			ond time sampled P S.T	1962	9/21-22	62/6	n2/6	9/25-28	62/6	9/30	10/1-3	10/4-9	10/10-14	10/15-18	10/19-24	10/25-31	11/1-10	11/11-21	11/22-30

- ")-

n Field pH

b Laboratory pH

c. Sum of calcium and magnesium in Epm.
d. Iron (Fe), aluminum (A1), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr¹⁶), reported here as $\frac{0.0}{0.0}$ except as shown. c Sum of calcium and magnesium in epm.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents. g Gravimetric determination.

h Annual median and range, respectively Calculated fram analyses of duplicate monthly samples made by California Department of Public Health, Division of Lobaratories, or United Stotes Public Health Service.

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TABLE B-14

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

H AT PARRAR DARK RRINGE (STA.

Second Column C														
Direction Reg Specific Color			Anolyzed by i			USBR								
Difference 1 mg Control of a			Soliform MPN/mt											
Difference 1 mg Control of a			- bid - year											
Discrete Table Continue C			2000 0003	D N C										
Director of Table Control of			Hord Os Co	Totol										
Directored Time State Circ Control March State Circ Control Co			Cent Cent											
Dutch 2004 14 14 14 14 14 14 14		3	die-	E G G		736	340	194	144	130	164	727	296	† † † 5 † † † † † † † † † † † † † † † †
Director of Table Appendix		-	T											
Director of Table Appendix			Silico	20°S										
Diecence Test Test Diecence Test			1 5	<u>(a)</u>										
Duterlocyge Temp Ousselver Cooperation Cooperati	(980)	upillie.	Fluo-											
Duterlocyge Temp Ousselver Cooperation Cooperati	(STA.	orts per	N-I	(NO ₃)					·					
Discincing Tamp Dissolved Conductionic Ph Colcium Mogne Sodum In cfs In C	BRIDGE	١	Chlo-	((C)										
Discincing Tamp Dissolved Conductionic Ph Colcium Mogne Sodum In cfs In C	PARK	Ē	Sul -	(\$04)										
Discincing Tamp Dissolved Conductionic Ph Colcium Mogne Sodum In cfs In C	FARRAR	tituents	Bicor-											
Discincing Tamp Dissolved Conductionic Ph Colcium Mogne Sodum In cfs In C	COUCH AT			(CO ₃)										
Discincing Tamp Dissolved Conductionic Ph Colcium Mogne Sodum In cfs In C	DUTCH SI	Mine	Solos- C	(X)										
Discharge Tamp			Sodium	(O N)										
Discharge Temp Oissolved Conductance PH Colcum of 2500)			Mogne	(Mg)										
Discharge Tamp Descrived Conductores pH			Calcium	(Ca)										
Dischorge Temp Oussolved oxygen ppm 9659			Ī											
Dischorge Temp Oussolved oxygen ppm 9659			Specific conductance micromhos	10 -c > 10		1108	522	287	219	234	273	554	744	351
Dischorge Temp Ousso in cfs in of oxy 66 66 76 76 70 70			D	%So										
				mdd										
			Temp in oF				15		99	92	92	75	20	29
			Dischorge in cfs											
			ond time	P.S.T	1962	2/19	3/12	1300	5/15 1325	6/19	7/17	8/1 ⁴ 0850	9/24 1025	10/17

2

b Laborotory pH.

Sum of calcium and magnesium in epm.

c. Sum of caretum and anginesium in epin.

d. Iron (Fe), aluminum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

Gravimetric determination.

h Annual median and tonge, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Labaratories, or United States Public Health Service.

Anneal analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Surceau of Reclamation (USBR); United States Beach, Department of Southern California (WMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Labaratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

ELDER CREEK AT GERRER (STA. 95a)

		Anolyzed by i	USGS											
		Ano	Sn											
		Hardness bid - Coliform" A as CoCO ₃ liy MPN/mi Totol N C. n ppm												:
	- L	n ppd n	CV .	200	547	50	m	10	0					m
		PP COS	52	7	1.5	IV.		13	16					13
		Totol PPm	223	87	151	%	141	506	214					171
	9	sad - rum	8	15	Φ	13	18	16	17					19
	Total	solids In ppm					192 ^f							
		Other constituents			Tot. Alk. 172		Tot. Alk. 164 Po _{1, 0.10}		Tot. Alk. 241					Tot. Alk. 193
		Boron Silico (B) (SiO _E)					엖							
-	illion	Boror (B)	0.1	0.1	0.1	0:0	0.3	0.1	0					0.0
Silling.	per million	Fluo- ride (F)					0.0							
Dorte per million	- 1	Ni- trote (NO ₃)					0.00							
Tel Asia	equivolents		60 1.69	0.12	0.23	6.8	18 0.51	0.90	31 0.87					0.87
42. 25.4	Ē	Sul - fote (SO ₄)					0.23							
ELIER CREEK AT GERRER (SER. 928)	Mineral constituents	Bicar- bonote (HCO ₃)	3.41	1.52	2.72	111	156 2.56	3.85	3.75					3.05
EMBE	erol cor	Corbon- ofe (CO ₃)	0.00	00.00	0.10	0.00	0.13	00.0	0.20					0.10
	Min	Potos- sium (K)					0.03							
		Sodium (No)	26	0.30	6.5	6.6	170	18	20					118 0.78
		Mogne- sium (Mg)					1.52							
		Coleium (Co)	1.46°	1.73°	3.05	1.91	26	1.120	4.28°					3.43
		рн в/ъ	7.7	8.1	8.3	8.2	88	8.2	8.3					0 BD
	Specific	(micramhos ot 25°C)	534	177	318	208	314	459	475					004
-		lved (101	ま	96	100	101	16	127					102
		Dieeo oeys	11.7	10.2	0.11	10.0	8.3	0.0	10.7					11.5
		Temp in OF	84	53	84	09	79	72	11					00
		Dischorge Temp in cfe in OF	β·η	1,370	255	160	34	4.5	0.8	DRY	DEC	DRC	DRO	83
		ond time compled P.S.T.	1/12	2/9	3/9	4/6 0915	5/7	6/2 0 0730	7/2 0945	8/1 1100	9/11	10/1 0815	11/1	12/10

b Laborotory pH.

c. Sum of colcium and magnesium in spm.

d. Iron (Fe), aluminum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*6), reported here as 0.0 except as shown.

d. Iron (Fe), aluminum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*6), reported here as 0.00 except as shown. c Sum of calcium and magnesium in epm.

Derived fram conductivity vs TDS curves.

Determined by addition of analyzed canstituents.

Grovimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water States Department of Water and Power (LADWP), City of Los Angeles, Department of Water and Power (LADWP), City of Los Angeles, Department of Sauthern California (Beach, Department of Water Resources (DWR); as indicated.
Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

TABLE B-14 ANALYSES OF SURFACE WATER

DER CHEEK NEAR PASKENTA (STA. 1

CENTRAL VALLEY REGION (NO. 5)

		Anolyzed	p i	USGS											
		Hardness bid - Coliformh	E/N.A.												
		Tur- bid-	mgd u	6.0	1500		30	Н	7	ri	CV	-77	6-	25	35
		888	N C M	17	_7	21	0	0/	22	79	129	227	22	12	~
		Hord	Total	212	122	196	8	744	187	213	278	360	179	153	151
		Per	Eni	27	12	12	15	18	25	14	94	55	23	50	17
		dis- solved	salids in ppm					196f				871 ^f			
			Other constituents	Tot. Alk. 209		Tot. Alk. 214		PO1, 0.00 Tot. Alk. 165	Tot. Alk. 195	Tot. Alk. 164	Tot. Alk. 182	70t 0.00 Tot Alk. 162	Tot. Alk. 192		Tot. Alk. <u>176</u>
			(\$102)					17				01			
	_		Baron (B)	0.0	0.0	0.0	0.3	0.0	0:0	0.1	0.1	0	0.1	0:0	0
	e lie	Eluca C	(F)					0.0				0.0			
TA. 13e	60	N - Old	(NO ₃)					0.0				0.00			
KENTA (S	"	- CAC	2 00	63	5.3	0.37	9.8	25 0.71	1.35	149	245	440	1.30	23.0	0.45
AR PAS	ē	- 100	fota (50 ₄)					0.19				11			
ELDER CREEK NEAR PASKENTA (STA. 13e)	constituents	Bicor	banate (HCO ₃)	3.29	2.30	3.31	100	<u>157</u> 2.57	2.57	2.51	2.79	130	180	172 2.82	2.74
ELDER C	Mineral cor	Corbon	(CO ₃)	14 0-13	00.0	0.20	00.0	0.13	0.63	5.17	6 0.20	16	0.50	00.00	0.13
	Ā	Potos	Sium (K)					0.8				0.00			
			(No)	36	7.9	12	6.7	15	29	2.5	111	184	1.09	18	0.61
		Moone-	(Mg)			_		1.23		-		3.8			
			(Ca)	4.23	2.44e	3.920	1.85°	33	3.74c	4.27c	5.500	3.24	3.50°	3.06	3.020
		I	a/b	0.00	7.9	88.1	8.2	7.80	2.00	277	ω ω υ π	8.5	8 2	8 9 1	5 7 7 2
	;	Conductonce (micromhos	at 25°C	550	255	389	185	334	054	748	1,060	1,580	454	368	333
			go	đ,	76	95	95	97	107	106	110	Ħ	97	76	86
		Dissolved	mod	13.0	1:1	10.5	10.5	9.3	8.0	8.5	9.5	10.2	10.0	9.11	11.3
-		Temp To OF		36	0,4	52	52	79	88	8	11	89	58	94	64
		Discharge Temp		27	368	8,	127	34	6.0	cu .	9.0	0.5	25	<u>.,</u>	81
		Date and time	P S T	1/11	2/14	3, 14	4/12 0930	5/17	6/19	7/18	8/21 1030	9/20	10/18	11/28	12/19

-204-

a FreldpH.

b Loboratory pH.

c Sum of calcium and magnesium in epm.

Sunce Continued Continued on the Control of Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, as United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quolity of Water Branch (USSS); United States Department of the Interior, Survey, Branch (USBC); United States Geological Survey, Quolity of Water District (SECECD), Metropolitan Water District of Southern California (WWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO.5)

FALSE RIVER AT WEBB PUMP (STA. 112a)

-												
		Analyzed by i	USBR									
	-	Hordness bid - Coiform's accocos ity MPN/mi Total N.C.										
-	. 5	- × 6										
l		S O O O										
-		Hord Total			-		W				·	
ŀ		- E										
	Total	eolids In pom		330	316	158	106	911	184	272	336	216
		Other constituents										
		Silico (SiO ₂)										
	ion	8°ron (8)		-								
100	per million	Fluo- rids (F)										
and and		trote (NO ₃)										
	equivalents	Chio- ride (CI)										
7.07	Ē.	Sut - fore (SO ₄)										
ı	ituents	Bicar- bonats (HCO ₃)										
יייייייייייייייייייייייייייייייייייייי	Mineral constituents in	Cerbon – Bi Ote (CO _S) (F										
3	Minero	Potos- Ce sium (K)										
		Sodium Po (No)								·		
		So -engi										
		Calcium Magna- (Ca) stum (Mg)	•	<u> </u>								
ŀ		υ I										
-	Specific	Dissolved conductonce pH (micromhos pH or 25°C)		ħ09	L941	161	152	198	645	328	897	231
		% Sot										
		1 1	_				-					
		To or		20	51	75	63	1/2		72	88	62
		Dischorge Temp in ofs in of	Tidal									
		ond time sompled P.S.T.	1962	2/16	3/12	4/23 1035	5/16 1035	6/19	7/17	8/14	9/14	10/17

o Field pH.

b Lobarotory pH.

c Sum of colcium and magnesium in epm.

c. Sum of colcium and magnesium in epm.

d. Iron (Fe), aluminum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reported here as 0.0 except as shown.

d. Iron (Fe), aluminum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reported here as 0.00 except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Grovimetric determinotion.

32505-D-H 6-61 200 apr h Annual median and range, respectively. Calculoted from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service. (USPHS); San Bernardino County Flood Canneal analyses made by United States Geological Survey, Duolity of Water Branch (USCS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Duolity of Water Branch (USCS); United States Department of Water and Power (LADWP); City of Los Angeles, Department of Survey, Department of Beach, Department of Water Resources (DWR), as indicated.

CENTRAL VALLEY REGION (NO. 5) FRATHER RIVER AT NICOLAUS (STA. 20)

This contribute Contribute																	
Since the continue of the co			Andlyzed by i		USGS												
Since the continue of the co		£	MPN/mI		Median 230.	7000. Minimum	N.										
Since the continue of the co		1.5	y had				35	35	9	01	7	-1	15	-7	00	2	
This contract This contrac			CO ₃ N C		0	21	2	m	0	0	0	0	0	0	0	0	
Since Sinc					56	55	171	38						55	74	77	
The control of the		Per	add -			16											
1 1 1 1 1 1 1 1 1 1		Total	solved solids in ppm		88	87°	999	,65	50 ^t	99¶	71e	77e	8318	83,	16e	71e	 _
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,			Other constituents						ABE 0.0; POL 0.00;				As 0.00; ABS 0.0; Pol; 0.05				
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,			Silica (SiO ₂)						15				<u>51</u>				
Contact of this contact of the con	_	llion	Baron (B)		0.0	0:0	0.1	0.0		0:0	0.1	0.1		0:0	0.0	0.1	
Contact of this contact of the con	millia	per mi	Fluo- ride (F)						0 0 0				0.1				
Color Colo			Ni- trote (NO ₃)						0.00				0.00				
11 11 12 13 14 15 15 15 15 15 15 15	۵	equiv	Chlo- ride (Ct)		0.00	4.9	2.4	2.8	0.00	0.08	0.08	2.5	2.4	2.2	3.6	3.0	
Discharge Temp		- 1	Sul - fate (SO ₄)						0.0				3.0				
Discharge Temp		lan la	Bicor- bonate (HCO ₃)		$\frac{69}{1.13}$	62	44 0.72	43	36	33	57 0.93	88	78 1.28	73	1.02	56 0.92	
Discharge Temp Disselved Conductionics Pub Colorum Nogen Colorum Conductionics Pub Conductionics Pub Colorum		- 1	Carbon- ofe (CO ₃)		0.00	00.0	00.0	0.0	0.0	00.0	00.00	0.0	0.00	0.00	0.0	0.00	
Discreting Temp Dissolved Conductances Philip Colour Philip Philip Colour Philip Colour Philip	M		Polas- sium (K)						0.0		-		0.03				
Discharge Temp Dissolved Specific Conductance Pump Oxford Conductance Pump Oxford Conductance Conductance			Sodium (No)		4.5	4.8	3.4	6.19	2.5	3.5	0.20	6.0	5.6 0.24	5.6	4.4	4.1 0.18	
Discreting Team Dissolved Conductation Pub Pub Conductation Pub Pu			Mogne- Sium (Mg)						0.22				5.2		_		
Discreting Team Dissolved Conductation Pub Pub Conductation Pub Pu			Colcium (Ca)		<u>1.12</u> °	1.10c	0.82	0.76°	7.2	0.520	0.88°	1.08°	0.70	1.10	0.940	0.88°	
Discharge Tamp Dissolved		ed	된		7.9	8.0	7.3	7.3	7.2	7.2	7.7	7.4	7.5	7.5	6.7	7:3	
Discharge Tamp Dissolved		Specific	micromhor at 25°C)		131	130	88	88	17	98	106	115	134	123	113	105	
Discharge Temp Disso exy, an off ppm 2160			9.0		106	100	83	%	102	95	%	105	16	011	8	76	
			Dissol oxyg ppm				11.11	10.4		8.9	8.3				9.0	0.11	
			Temp in of		775	51	8	75	57	99	73	8	62	73	8	20	
			Discharge in cfs		2160	7650		17,600	8700	5510	1400	1380	828	1350	6180	8380	
				1962	1/4	2/8	3/15		5/15	0080	7/2	8/13	9/10 0725	10/1	11/1 0950	12/3	

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

Sum of calcium and magnesium in epin.

Iron (Fe), aluminum (Al), arcsinc (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr *6), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves

g Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water District (SWEFCD); Metropoliton Water District of Southern California (WWD), Los Angeles Department of Water and Pawer (LADWP); City of Los Angeles, Department of Water Resources (DWR); as indicated.
Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Californio Department of Public Health, Division of Laboratories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5) FEATHER RIVER AT NICOLAUS (STA. 20)

		Analyzed by i		nsgs									-					
		n ppm MPN/mi																
	- in	n pid n																
		N COS		0	9	٦	2	2	2	C/	0	0	0	0	0	0	0	0
			1	75	8	53	30	39	37	41	24	36	8	29	28	31	8	35
		Fod -		5	8	55	19	8	59	22	8	8	23	21	8	55	8	22
	Totol dis-	solids in ppm		868	906	868	899	738	989	68 ⁶	748	999	548	55 ⁸	548	62 ⁸	538	62 ⁸
		Other constituents																
	-	(Silica (SiO ₂)	_														01	01
uo.	per million	Baron (B)															<u> 0</u>	0:0
er mill	2	Fluo- ride (F)	_															
ports per million	equivalents	trate (NO ₃)																
	inbe	Chlo- ride (CI)															2.6	4.0
č.		Sul - fote (\$04)																
stitueni		Bicor- bonote (HCO ₃)		3 11	54 0.89	63	31 0.51	41	43	47 0.77	52 0.85	44	36	37	35	07 07 07	38	46
Mineral constituents		Corbon- ate (CO ₃)		0.0	0.00	0.00	0.00	0 000	0.0	0.0	0.00	00.0	0.00	0.0	0.00	0.00	0.00	0 00
Ž	ľ	Potos- Sium (X)																
	Ì	Sodium (No)		9.58	5.8	7.2	3.3	4.4	6.8	5.4	4.8	4.5	3.6	3.7	3.3	4.0	4.0	4.6
		Magne- Sium (Mg)		5.5	0,40	5.7	2.6	3.8	2.9	4.1	4.1	3.2	0.16	2.2	2.4	2.7	2.8	2.7
		Coleium (Co.)		0.65	12	0.60	8.0	9.5	0.50	9.6	0.50	9.5	8.8	8.4	7.3	8.0	7.6	9.9
		Ę		7.9	7.1	7.2	7.1	7.2	7.1	7.3	7.5	7.5	7.7	7.7	7.2	7.8	7.0	7.1
	Specific	(micromhas		132	125	129	80	8,	102	101	104	92	75	75	72	42	77	91
		Dissolved oxygen ppm %Sal																
			1															
		9 c c c c c c c c c c c c c c c c c c c								_	_	_	_		0	0		
		Dischorge Temp		5060	3610	3220	34500	18600	14300	0756	10200	15500	18100	13200	10400	6530	i P t	8 9 8

b Laboratary pH

c Sum of colcium and magnesium in epm.

c. Sum of colcium and magnesium in epm. d. seper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Surveau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Sauthern California (MWD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated. h Annual medion and range, respectively. Colculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

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CENTRAL VALLEY REGION (NO. 5)
FEATHER RIVER AT MICOLAUS (STA. 20)

			Anolyzed by i		USGS					
		-	bid - Coliform"					-		
		Tur-	- pid - ki Made u							
			N O O		0	0	0	0	0	
		:	Tatol Ppg		14	55	57	19	26	
-		Per-	- Eni		50	18	18	13	19	
		Tatol	solids in ppm		798		89gg 89gg	95 ^f 928	86 ^f	
			Other constituents				Fe 0.00	Fe 0.01	Fe 0.00	
			Silico (SiO ₂)				17	17	15	
	۱	illion	Boron (B)		0:0	0.1	0.1	15	0:	
	OF THE	per m	Fluo- ride (F)				0.2	0.2	0.1	
	ports per million	equivolents per million	Ni- trote (NO ₃)				0.03	0.03	1.3	
	-	adui	Chlo-ride (CI)		3.5	3.0	4.5	4.0	3.0	
(continued)	9		Suf - fote (SO ₄)				3.0	5.0	0.0	
٥	natituent		Bicor- bonote (HCO ₃)		61 1.00	70	73	1.28	75	
	Mineral constituents		Carbon- ote (CO ₃)		0.00	0.00	0 000	0.0	0:00	
	ž		Potas- sium (K)				1.2	1.4	1.3	
			Sodium (No)		5.3	5.6	6.0	6.6	6.2	
Ì			Mogns- sum (Mg)		0.39	6.1	6.0	5.1	6.3	
			Colcium (Ca)		0.55	0.60	13	16	12 0.60	
			T T		7.5	7.8	7.4	7.1	7.5	
		Specific	conductance pH ^b at 25°C)		118	621	129	139	136	
			% So							
										Discontinued
			Orschorge Temp		1210	902	956	833	0611	D16.C
			ond time sompled P.S.T.	1962	7/1-7	7/8-31	8/1-15	8/16-31	9/1-18	9/18

o Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

c Sum of calcium and magnessium in epm. d Iron (Re), and (Re), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as 0.0 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR), United States Deblic Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropoliton Water District of Southern California (WWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Bacch, Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5) FEATHER RIVER NEAR OROVILLE (STA. 19)

	Anothern	by i		SSSO													
	Coliforn	TE/NAW Edd of the terminal of		Median 21. Maximum	1300. Minimum												
	100	n ppm		Ω	m	00	50	-3	m	-7	-7	۵.	ন	<i>=</i>	15		
	8 6 6	SZ		o 	0	0	0	0	0	0	0	0	0	0	0		
				51	67	17	%	25	8	27	8	911	87	57	23		
	Par	Sod -		17	18	17	22	18	19	8	19	8	19	18	8		
-012	415-	solved solids in ppm		816	77e	65°	7.7e	454	47e	89	Jite.	69 ^f 678	78°	6 9	38°		
		Other constituents						ABS 0.0; PO4 0.00				ABS 0.0; As 0.00;					
		Silica (SiO ₂)						57				٦I					
	100	Boron (B)		0:0	0.1	0:0	0:0	0:0	0:0	0.0	0.1	0.1	0:0	0:0	0:0		
millior	per willion	Fluo- ride (F)						0 0 0				0.0				_	
6	- 1	rote (NOs)						0.00				0.3					
ď	equivalents	Chlo- ride (CI)		0.05	3.7	2.2	1.2	1.8	0.03	0.0	0.05	1.8	0.03	2.1	0.03		
Ē	- Ł	Sul - fote (SO ₄)						0.02				0.00					
stituents		Bicor- bonate (HCO ₃)		1:11	62 1.02	50.03	38	32 0.52	39	57 0.93	69	88	$\frac{72}{1.18}$	62	30		
Mineral constituents		Corbon-		0.0	0.00	0.0	0.00	0.0	0.0	0.0	0 0	0 0	0 8	00.0	00.0		
Win		Potos- Sium (X)						0.0				1.2					
		Sodium (No)		0.20	0.21	3.9	3.7	2.5	3.2	4.8	5.6	5.5	5.3	4.7	3.1		
		Mogne- sium (Mg)						2.1				4.5					
		Calcium (Ca)		1.01c	2 <u>66.0</u>	0.82	0.60°	6.6	0.60°	0.84c	1.00c	11)	0.96€	0.90c	0.47c		
r	60	P.		7.3	7.4	7:3	7.0	7:3	7:3	7:4	2/5	7.4	6.6	7.7	7.2		
	Specific	(micromhos		121	316	97	71	09	71	102	111	110	117	104	22		
				101	107	100	96	106	8	8	103	106	102	107	011		
		Dissolved oxygen ppm %Sq		12.8	13.5	4.51	11.6	11.4	10.3	9.0	9.5	7.6	7.6	10.8	12.5		
		1_		27	27	£ 43	54	75	95	29	70	69	79	59	50		
		Discharge Temp		1490	1500	5020	13900	0466	0617								
		ond time sompled P.S.T	1962	1/8	2/6	3/5	4/9	5/9	9/9	7/3	8/14 0815	9/11	10/1	11/1	12/3		

-203-

a Freld pH

b Laboratory pH.

c Sum of colcium and magnesium in epm.

I consist the street of the stre

c Sum of calcium and magnesium in epm.

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Surceou of Reclamation (USBR); United States Geological Survey, Quality of Water Branch (USGS), United States Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH), Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated.

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5) FEATHER RIVER BELOW SHANGHAI BEND (STA. 20a.)

	Anolyzed	, in		USGS													
	bid - Coliform			Median 230.	7000. Minimum	٠٢٥											
	- 4-	m ppm		4	20	25	04	8	15	9	⇒	25	15	10	30		
	8000	N N E		0	0	0	m	0		0	0	0	0	0	0		
	Hordness 1			54	55	[‡] 3	39	%	88	41	19	57	53	94	39		
	Cent Cent	E		7.	16	16	19	17	15	21	16	18	18	19	97		
Total	dis-	solids in ppm		79°	83	999	55 ^e	148 ^f	1,4.1e	,69	80°	328 398	81e	72 ^e	61 ^e		1
		Other constituents						PO ₁ 0.00				PO ₄ 0.00					
		(S:Og)						77				13					
l e	1 :	(B)		0.0	0.0	0.0	0:0	0:0	0.0	0.1	0.1	0.2	0.0	0.0	0.0		
mullion ner million	F 140-	ride (F)						0.1				0.0					
(a)		trate (NO ₃)						0.00				0.05					
parts p	:-	(CI)		0.05	3.4	1.1	2.0	2.0	2.2	2.0	2.2	2.5	1.8	2.8	2.6		
Ë	\vdash	fote (SO ₄)						0.02				5.0					
constituents		bonate (HCO ₃)		99.1	1:11	52 0.85	熆	35 57	33	0.90	72 1.18	76	72 1.18	63	50 0.82		
	or bon –	(CO ₃)		0.00	0.00	0.00	0.0	0.00	0 00	0.0	00.00	0.0	0.00	0.00	0.00		
Mineral	2010s-	sium (K)						0.5		-		0.03	_			-	
		(oN)		4.0	4.9	3.7	4.2 0.18	0.12	2.3	5.4	5.4	5.9	5.2	4.8	3.9		
	No one	sing) (Mg)						1.7				6.0					
		(Ca)		1.08°	1.10°	0.86°	0.78c	8.4	0.56°	0.87c	1.22°	13	1.06°	0.91°	º€7.0		
	표			7.3	7.4	7.4	7.7	7.2	7.3	7.3	7.7	7.5	7.3	7.1	7.3		
;	conductance	ot 25°C)		120	126	100	48	88	%	105	121	137	123	109	93		
		Sof		102	100	%	100	104	76	91	101	76	103	%	%		
	Dissolved	E Mad		12.5	11.7	11.7	10.9	10.9	4.6	7.8	8.2	9.6	9.1	9.8	1.11		
	deap Louis			177	47	746	53		63	7.1	62		17	 -	50		
	Dischorge Temp	5		2160	089†₁	7820	14500	8220	2500	1620 est.	88	1080	1600	2990	19000est		
	Date ond time	sompisd P.S.T	1962	1/5	2/8	3/15	4/5 0945	5/15	0060	7/12 0910	8/13	9/10	10/1	11/1	12/3		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

c. Sum of calctum and magnesium in term. dely, report (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of onalyzed constituents. Derived from conductivity vs TDS curves

Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Busines (USPHS), Son Bernardino County Flood County States Geological Survey, Quality of Water Branch (USCS), United States Department of Water and Power (LADWP), City of Los Angeles, Department of Mater and Power (LADWP), City of Los Angeles, Department of Water Branch California Department of Water Resources (DWR), as indicated.

CENTRAL VALLEY REGION (NO. 5)

FRESHO RIVER NEAR DAULTON (STA. NO. 113)

		9													
		Anolyzed by 1	SOSO												
	,	Hordness bid - Coliform ⁿ oc CaCO ₃ ity MPN/mi Total N C. ppm ppm	Median	6.2 Maxd.mum 230.	Minimum 0.21										
	107	- piq -		w	10	15	10	6	w	55	2			2	m
	-	N C.O.S.		6	7	0	0	0	0	0	9			7	٧٠
		1 1		29	20	771	36	22	15	25	ľη			52	Z.
	0	cent cod - cod		£X	F18	37	38	3	η-	97	S.			£.	25
	Total	solved solids in ppm						59							
		Other constituents						POL 0.10							
		Silico (SiO ₂)						18							
	million	Boron (B)		0,0	0.1	0.1	0.0	0:0	0,1	0.0	0.0			0	0.1
anline.	per mi	Fluo- ride (F)						0.0							
ports per million	lents	Ni- trate (NO ₃)						0.0							
ā	equivalents	Chla- ride (CI)		1.30	31	12 0.34	11 0.31	7.2	7.2	15	28			1.38	39
	LI S	Sul - fote (SO ₄)						1.0			_				
	constituents	Bicar- banate (HCO ₃)		57	96°0	57 0.93	0.80	32	21	30	43 0.70			58 0.95	56 0.92
Dorts par	Mineral con	Corbon- ote (CO ₃)		0.0	0.0	0.00	0000	0.00	0.0	0.0	0000			0.0	0000
	Min	Patas- sium (K)						1.1							
		Sodium (No)		28 1.22	21 0.91	12 0.52	10	7.5	5.0	9.6	19			30	25
		Colcium Magne- (Co) Sium (Mg)						0.10							
		Colcium (Co)		c 1,12	<u>66°0</u>	0.38	0.77°	6.8	0.30	0.50	0.82°			1.04	
		° E		7.8	7.7	7.6	7.6	7.5	7.4	7.5	7.6			7.8	7.7
	Specific	canductance (micramhos at 25°C)		257	500	151	108	42	57	93	169			262	227
				101	66	93	779	100	98	76	10h	eq.	ed.	100	8
		Disso oxy oxy ppm		12.6	11.5	10.2	9.1	9.1	2.0	7.8	8.6	collected.	sample collected.	Ţ,	0.11.0
		Temp in 0F		143	118	52	73	8	73	78	78	sanple	ample	89	С
		Oischorge Temp		12	28	181	165	100	817	0.0	0	No sa	No 58	9	1
		Sompled P.S.T	1962	1/8	2/5	3/5	1050	5/7	6/7	7/12	8/6 0930	7.6	10/	11/8	1200

b Loboratory pH.

c. Sum of calcium and magnesium in epm

c. Sum of calcium and magnesium in epm. del. g. copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chromium (Cr^{*6}), reported here as 0.0 except as shown. d. line (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chromium (Cr^{*6}), reported here as 0.00 except as shown.

Derived from canductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Annual analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureou of Reclamation (USBR), United States Public Health Service (USPHS); Son Bernardina Country Flood Control States Department of Water and Power (LADMP); City of Los Angeles, Department of Water Resources (DWR), as indicated.

Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR), as indicated.

ANALYSES OF SURFACE WATER TABLE B-14

CENTRAL VALLEY REGION (NO. 5) GRANT LINE CANAL AT TRACY ROAD BRIDGE (STA. 103a)

		_				_	_				_					_
	Anolyzed by 1		USGS													
	bid - Coliform ity MPN/mi		Median 230.	77000. Minimum	13.											
	- piq -		00	15	25	25	25	15	20	15	25	9	10	90		
	N COS		134	53	35	79	37	Φ	93	101	8	52	84	31		
	Hordness oe CoCO ₃		292	148	110	161	112	2/4	228	257	208	199	156	94		
	sod -	_	53	52	53	53	917	94	53	53	52	53	54	52		
Total	solved solids in ppm		.869	360°	273 ^e	391 ^e	²6η2	126°	542e	9009	517 ^f 515 ^g	947	387°	239 ^e		
	Other constituents						POl, 0.00				PO ₄ 0.30					
	Silica (5:0 ₂)						71				52					
lion	Boran (B)		7.0	4.0	0.3	0.3	0:0	0.0	0.3	0.5	0.2	0.1	0.1	0.1		
per million	Fluo- ride (F)						0.1				0.0					
	Ni- trate (NO ₃)						0.00				1.5					_
equivolents	Chio- ride (CI)		233 6.57	92	1.64	3.10	74, 2.09	31 0.87	187	205	164	143	3.33	70		
r,	Sul - fote (50 ₄)						31 0.65				57					
constituents	Bicor- bonote (HCO ₃)		3.10	1:90	92	1.93	91	56 0.92	2.70	3.11	180 2.95	179 2.93	132	1.26		
Mineral can	Corbon- ote (CO ₃)		2 0.07	0.00	0.0	0.0	0.00	000	0.0	0.0	0.0	00.0	0.0	0.0		
Mın	Potos- Sium (K)						2.5			-	4.8					
	Sodium (No)		149	3.22	2.52	3.61	45	23	118 5.13	132	105	10 ⁴	83	2.00		
	Mogne- Slum (Mg)						0.94				20					
	Colcium (Co)		5.84c	2.960	2.20	3.22	1.30	1.08°	295.4	5.14°	2.50	3.98°	3.13	1.88°		
	H		8.3	7.3	7.3	7.6	8.3	7.1	7.6	7.7	8.1	8.3	7.4	7.5		
Specific	(micromhos or 25°C)		1270	759	164	777	455	230	985	1090	902	998	40₹	η£η		
	1 5		91	38	78	117	130	%	211	107	971	117	82	42		
	Dissolved oxygen ppm %Sc		10.9	7.5	0.6	10.8	11.11	9.1	9.5	9.8	10.0	10.7	7.8	8.9		
	Ten or		97	52	27	67	14t	99	75	† <u>L</u>	75 1		8	51		
	Oischorge Temp	Tidal														
	ond time sompled P S.T	1962	1/10	2/13	3/7	1,79	5/7	0/5	7/10	8/8 0945	9/6	10/4	11/14	17/11		
_																

b Laboratory pH.

Sum of colcium and magnesium in epm Iron (Ca), lead (Pb), manganese (III), and hexavalent chramium (Cr⁺⁵), reported here as 0.0 except as shown. Iron (Fe), aluminum (Al), areaic (As), capper (Cu), lead (Pb), manganese (III), and hexavalent chramium (Cr⁺⁵), reported here as 0.0 except as shown. c Sum of colcium and magnesium in epm

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamption (USBR); United States Geological Survey, Quality of Water Beach, Department of Water and Power (LADWP); City of Las Angeles, Department of Water and Power (LADWP); City of Las Angeles, Department of Water Resources (DWR); as indicated.
Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or Colifornia Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

CENTRAL VALLEY RECION (NO. 5) INDIAN CREEK NEAR CRESCENT MILLS (STA. 17d)

	Analyzed by i		USGS												
	Hordness bid Coliform as CoCO ₃ ity MPN/ml		Median 62.	7000. Minimum	C • >										
	- piq -		CU	10	91	220	200	10	-4	m	01	8	4	52	
	N 000 S		0	13	0	0	0	0	0	0	0	٦	0	0	
	Hord Os Co		74	20	22	88	27	75	75	98	98	24	55	8	
-	- pos		8	rs.	8	56	22	36	22	22	25	19	22	12	
Totol	solids in gpm		119	115e	85e	47e	78 T	72 ^e	125	140e	143 ^f 150 ^g	65e	95e	9 19	
	Other constituents						PO ₄ 0.05				A6 0.00; ABS 0.0; POL 0.20				
	Silica (SiO ₂)						ଥା				25				
Lilion	Boron (B)		읭	1.0	0:0	0.2	7.0	<u> </u>	0:1	0.2	0.5	3	ं।	0:0	
r million	Fluo- rids (F)						0.0				0.0				
ports per million	ni- trote (NO ₃)						0.00				0.00				
ports par	Chlo-		0.11	6.1	0.08	0.03	0.5	0.03	3.4	3.8	5.7	0.00	3.8	0.00	
č	Sul - fors (SO ₄)						2.0				8.8 0.18				
stituent	Bicar- bonats (HCO ₃)		96	69 1.13	67 1.10	36	070	59 0.97	102	121	2.03	50 0.82	80	53 0.87	
Mineral constituents	Corbon- (CO ₃)		0.0	0.0	0.00	00:00	0.00	000	0.0	0.00	0.00	0.0	0.0	00:00	
M	Potos- (K)						1.0				0.03				
	Sodium (Na)		8.8	8.6	5.7	0.20	3.7	11 0.4 14	9.6	0.48	11 0.48	0.20	7.2	0.20	
	Mogna- sium (Mg)						1.7				6.9				
	Colcium (Co)		1.49c	1.41c	1.00c	0.56°	0.40	0.84c	1.500	1.72c	23	0 <u>.84</u> c	1.11°	0.75c	
	Ĭ		7.5	7.9	7.2	6.9	7.5	7.2	7.1	7.2	7.1	7.2	7.9	7.1	
	conductance (micromhos at 25°C)		175	169	125	69	72	105	184	205	207	95	139	76	
			93	85	82	89	88	87	73	98	7/2	81	87	98	-
	Dissolvs d oxygen ppm %So		11.9	0.11	10.8	11.2	7.6	8.7	7.1	8.0	7.8	9.8	11.0	10.5	
	Temp in oF		177	9	39	24	52	3	29	99	96	45	54	54	
	Dischargs Temp in cfs in PF		17	%	391	2620	985	295	36	19	19	1150	192	1400	
	Dote ond time sompled P.S.T.	1962	1/8	2/6	3/12	1020	5/9	6/6	7/3	8/14 1045	0060	10/18	11/21	1500	

a Field pH

b Laboratary pH.

c Sum of colcium and magnesium in epm.

c Sum of calctum and magnestum in thin.

d Iron (Fe), aluminum (AI), arsaic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*6), reported here as 0.0 except as shown.

f Determined by addition of analyzed constituents. Derived fram conductivity vs TDS curves

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Surreau of Reclamation (USBR); United States Public Health Service (USPHS), Son Bernardino Country Flood Control District (SBCFCD); Metropolitan Water Of Southern California Department of Water and Power (LADWP); City of Los Angeles, Department of Mater Beach, Department of Public Health (LADPH); City of LADPH); City of Label Beach, Department of Public Health (LADPH); City of Label Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

CENTRAL VALLEY REGION (No. 5) INDIAN SLOUGH NEAF BRENTWOOD (STA. 107)

	Anolyzed by i		USGS													
	oliform ^h MPN/ml		Median 50.	Maximum 7000. Minimum	1.3								-			
	Pid - Did - Did - Did - Did	1	25	017	10	45	25	85	30	ۍ ک	50	25	9	7		
	S COS		81	131	100	17	7,7	19	m	7.	13	23	77	33		
	Hardn as Ca Total	_	360	575	391	184	70	8	65	87	86	118	328	309		
	rent Rad -		64	54	45	54	39	64	42	55	55	55	74	54		
Total	solved solids in ppm		752 ^e	9999	752 ^e	456°	$1^{hh}\Gamma$	232°	132 ^e	:15	249°	300e	9899	752°		
	Other constituents						PO _{1,} 0.00				PO ₄ 0.15					
	Silica (SiO ₂)						15				15					
lion	5		2.3	1.5	2.4	111	0.5	0.5	0:1	0	0.2	0.5	5.0	2.2		
million per mi							0.03				0.0					
1 20	l _						0.7				1.3					
ports p	Chia- ride (CI)	+	184 5.19	190	175	3.72	27 0.76	54	24 0.68	1.64	70	86	157	180 5.08		
- S	Sul - fate (SO ₄)						22 0.16				27					
canstituents	Bicar – bonate (HCO ₃)		330	2.90	355	138	1.11	1.61	75	1.51	100	1.90	306	337		
Mineral can	Carban- ote (CO ₃)		5 0.17	0.0	0.00	00.0	0.0	0.0	0.00	000	0.00	0.0	0.0	0.0	•	
W	Potas- sium (K)						2.0				2.3					
	Sodium (Na)		157 6.83	150	87.9	1.26	21 0.91	1.91	25	1,8	54	66 2.87	134 5.83	170		
	Magne- Sium (Mg)						7.3				12 1.00					
	Calcium (Ca)		7.20°	5.52c	7.82°	3.68°	16	1.980	1.30c	1.73°	0.90	2.36c	95.9	6.18°	 	
	Hd		7.7	7.4	7.6	7.6	7.2	4.8	7.3	7.3	7.3	7.5	8.0	8.1		
Specific	conductance (micromhos at 25°C)		1350	1200	1350	818	546	1,16	237	38,	738	539	1200	1350		
	1 5		106	%	- 35	87	92	93	8	34	92	02	95	8;	 	
	Dissolved oxygen ppm %Sc		12.3	6.3	0,0	8.1	6.8	7.1	5.6	7.1	6.5	6.5	9.5	10.8		
	Temp In oF		877	54	99	%	72	1 ₇ L	82	77	7/2	29	 %	53 1		\dashv
	Oischorge Temp	Tidal														
	ond time sampled P S.T	1962	1/11	2/15	3/8	4/11 1150	5/8	6/6	1/300	8/6 1105	9/6	10/4	11/13	12/10		

a Field pH.

b Laboratory pH

c. Sum of calcium and magnesium in epm.

d roughly account (Cr. 5), reparted here as $\frac{0.0}{0.00}$ except as shown. e Derived from conductivity vs TDS curves

Determined by addition of anolyzed constituents.

Gravimetric determination

h Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quolity of Water Bronch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Department Secret. (SBCFCD); Metropolition Weter District of Sauthern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5) ITALIAN SLOUGH NEAR MOUTH (STA. 106)

		Anolyzed by i		USGS												
	4	Hardness bid - Coliform's COCO3 Ify MPN/mil Tatal N.C. hppm		Median 210.	2400 Minimum	y o										
Γ	- Zū	- piq -		15	04	99	15	25	99	4.5	25	25	10	10	10	
		N COS		144	226	98	88	23	22	Ø	7	0	15	986	57	
		Hordr Tatal Ppm		588	348	173	140	79	66	99	73	90	91	188	150	
	Par	sod - ium		52	55	59	64	77	93	04	8	53	52	54	75	
		solids in ppm		697°	919 ^e	513 ^e	338	173 ^f	237 ^e	132°	167°	199g ^f 1968	225°	76th	416	
		Other constituents						PO _{1, 0.03}				PO ₄ 0.15				
		(SiO ₂)						和				기				
	million	Boron (B)		0.5	1.9	1.0	7.0	6	0:1	8	00	9	0:1	0.5	0.5	
oillia	psr m	Fluo- rids (F)						0.2				0.0				
ports per million	isnts p	Ni- trote (NO ₃)						1.0				1.3				
ì	equivolants	Chio- ride (CI)		5.98	326	158	88	39	64	24 0.68	1.13	1.14	61	154	3.53	
	c s	Sul - fote (SO ₄)						30	_			9 <u>7.0</u>				
	stituenti	Bicar- bonate (HCO ₃)		176 2.88	2.44	106	1.44	1.11	94	71 1.16	80	86	93	124 2.03	1.85	
	Mineral constituents in	Corbon- ote (CO ₃)		0.0	0.00	0.0	0.00	0.00	0.0	0.00	00.00	0.00	0.00	0.0	0 0 0	
	Min	Potas- sium (K)						2.2				1.6				
		Sodium (No)		144 6.26	198 8.61	113	63	28	1.83	20 0.87	34.1	1.74	2.00	101	82 3.57	
		Mogne- sium (Mg)						8.9				9.7				
		Colcium (Ca)		5.76°	296.9	3.46e	2.80c	17 0.85	1.98°	1.32°	294.1	0.80	1.82°	3.76°	3.00°	
	ed	IQ.		7.4	7.1	7.7	7.6	7.1	7.8	7.5	7:5	7.4	7.4	7.4	7.5	
	Specific	conductance (micrombos at 25°C)		1220	1610	898	592	304	415	231	293	3.56	394	869	129	
		15		61	73	98	211	92	77	80	95	12	98	81	65	
		Orsso Oxys Opm		7.9	8.1	9.8	10.2	7.0	6.7	9.9	7.9	7.7	7.8	7.9	9.9	
		Tsap in OF		01	52	54	88	2	72	18	172	75	98	29	51	
		Dischorge in cfs	Tidal													
		Dots ond tims somptsd P.S.T	1962	1,11	2/15 1250	3/8	4/11 1310	5/8 1330	6/6	7/10	8/7	9/6	10/4	11/13	12/10	

b Loborotory pH

c. Sum of calcium and magnesium in epm. 0.0 except (Su), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr⁺⁶), reported here as 0.0 except as shown. d Iran (Fe), aluminum (AI), arsanic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr⁺⁶), reported here as 0.0 except as shown. c Sum of calcium and magnesium in epm

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination.

Hineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Surveau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardina County Flood Control District (SBCFCD); Metropolitan Water District of Southern California Changeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service

TABLE E-14 ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

KAWEAH RIVER BELOW TOHEINUS DAM (STA. NO. 35)

		Anolyzed by §	USGS														
	4	Hordness bid - Coliform os CaCO ₃ ity MPN/ml		Median 13. Meximum	Minimum 0,06												
r	Tor	- piq		m	15	10	9	15	ω.	m	2		15	9	п	-	
	<u>, </u>	N C S		0	0	0	0	0	0	0	0	0	0	0	0		
		f'		23	36	118	18	10	7	16	27	33	73	941	52		
	Par	sad -		55	277	22	33	30	21	277	25	52	22	23	22		
	Total	salved solids in ppm						33				9	09		92		
		Other constituents						PO _{1, 0.20}				PO ₁₁ 0.00					
		Silica (SiO ₂)						7.8				9.5					
	million	Baron (B)		0.1	0.5	0.0	0.0	0.0	0.0	0.0	0	0.0	0.1	0	0.0		
million	er mil	Fluo- ride (F)						0.1				000					
ports per million	ents p	NI- trate (NO ₃)						0.00				1.5					-
ports per milli	equivolents per	Chio-		6.0	3.8	0.17	1.2	1.5	0.07	2.2	2.5	3.8 0.11	7.6	5.5	6.0		
		Sul - fate (SO ₄)						1.0				3.8					
4.4.000	51110	Bicar- bonate (HCO ₃)		65	0.75	60 0.98	11 0.38	13	15	20	33	1,th	26.0	0.98	66 1.08		
1	- 1	Carbon-		0.0	000	0.0	0.0	000	000	000	000	0.0	000	0.0	0.00		
Monte		Potas- C sium (K)						0.0				1.1					
		Sodium (No)		6.6	5.2	6.3	2.6	2.1	1.3	2.4 0.1c	3.li 0.15	5.3	5.8	6.1	6.6		
		Mogne- sium (Mg)						0.1				1.3 0.11					
		Calcium (Ca)		1.04	0.72	26.0	0.36	3.6	0.22	0.31	0.54	11 0.55	0.89	26.0	1.04		
	٩	I		7.00	7.7	7.7	7.4	7.3	7,1	7.1	7.5	8.0	7.6	0	7.7		
	Specific	conductonce (micromhos at 25°C)		130	96	126	172	28	31	41	99	91	114	122	139		
		1 6		106	86	86	104	101	104	100	1377	14.3	81	121	26		
		Dissolved oxygen ppm %S		12.2	11.5	11.6	11,1	10.5	1C.5	8.7	10.7	11.4	7.5	11.6	11,0		
		T o o o o o		18	1,7	977	77	29	59	73	81	82	29	779	20		
		Oischorge Temp in cfs in of		-	# E	} !		i	4	1,27	1	1 1	60	9	16		
		ond time sompled P S.T	1962	1/9	2/6	3/6	1325	5/8	6/6 1035	7/11	8/8	9/5	10/2	11/1	12/5		

a Field pH

e Derived from conductivity vs TDS curves

b Labaratory pH.

c. Sum of caterum and magnesium in epm

A ron (Fe), aluminately, exercise (Sa), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as 0.0 except as shown.

f Determined by addition of analyzed constituents.

t Determined by addition of analyzed gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Changed analyses made by United States Geological Survey, Duolity of Water Branch (USCS); United States Department of the Interior, Bureau of Reclomation (USBR); United States Geological Survey, Duolity of Water Branch (USCS); United States Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Water Resources (DWR); os indicated.

CENTRAL VALLEY REGION (NO. 5)

KERN RIVER NEAR BAKERSFIELD (STA. NO. 36)

		Analyzed by 1		SUS.														
	4	bid - Coirform"		Median	9.6 Maximum 7000.	Minimum 0.23												
	i i	bid - ify In pom			m	ν.	11	30	bi H	7	٥	m	-7	10	~	70		
		200	zā		0	0	0	0	0	0	0	0	0	0	0	0		
			Paral		7/2	65	19	55	27	22	22	27	34	91/	1,8	₹ _		
L	Q.	sod -			77	97	9	70	07	38	33	2	37	38	172	77	<u>-</u>	
	Total	solved solved	E 00 E						59				59					
		Other constituents							ABS 0.0 AS 0.01 PO ₁				ARS 0.0 AS 0.015 PO _L 0.15					
		Silico	(201C)						ង្				5.0					
	lion	Boron	(9)		0.3	0.2	0.1	0.2	0.1	0-1	0.1	0.0	19:1	0.1	0.2	0.2		
illia.	per million	Fluo-							0.3				0.0					
action one million		1 N 1							000	·			0.9 0.01		-			
100	equivalents	Chlo-			17 0.18	14 0.39	9.8 0.28	6.8	5.2	2.7	3.0	11.2	0.12	8.6	8.8	9.0		-
	r.	Sui -	504)						7.0				7.0					
	tituents	Bicor - S			105	98	91	1.33	39 0.64	33	32 0 52	39	1,9 0.80	098	74	1.34		
	Mineral constituents	Corban-	(00)		000	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	0000	0000	0.0		
	Min	Potos-	ŝ						1.5				1.2					
		Sodium	(0 N)		28 1.72	28 1.13	19 0.83	17 0.71	8.7 0.38	6.1,	6.L 0.28	7.9	5.6	13	18	18 0.78		
		Mogne-	(Mg)						0.09				1.0					
		Colcium	(00)		1.118	1.30	1.22	1:10	9.1	577.0	0.44	0.54	12 0.60	0.92	96.0	1.08		
İ		Ha			8.0	8.0	7.9	7.8	7.6	7.2	7.4	7.5	7.5	7.7	8.0	7.8		
	Sancific	(micromhas			592	239	211	176	56	77	23	93	109	141	183	195		
			%Sat		105	96	96	76	97	8	92	92	96	78	76	89		
		Dissolved	b mdd		12.8	12.0	10.8	9.4	2.6	9.1	8.4	8.0	e e	7.ь	9.6	9.1		
-					172	57	S	09	62	59	99	72	72	65	85	148		
		Dischorge Tamp			186	282	516	1569	1569	1954	1949	803	200	383	1,9	211		
			P.S.T	1962	1/9	2/2 0845	3/6 1745	1020	5/8	6/15	1/11 0730	0060	9/5	10/h 0715	11/7	12/5		

a Field pH

b Laboratary pH.

c Sum of calcium and magnesium in epm.

c. Sum of calcium and magnesium in epm.

d. Iron (Fe), oluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Un), zinc (Zn), and hexavalent chromium (Cr*⁵), reported here as 0.00 except as shown.

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves.

Grovimetric determination.

h Annual medion and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Divisian of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Broatment of Water and Pawer (LADWP), City of Los Angeles. Department of Subject Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

KERN RIVER BELOW ISABELLA DAM (STA. NO. 36a)

		Analyzed by 1		usas				_										
		Hordness bid Coliformh a		Median	Maximum 7000.	Minimum 0.092												
	_ ;	- pig			m	7	00	20	36	9	6 0	2	2	15	2	2		
		0000	υ E Z d		0	0	0	0	0	0	0	0	0	0	0	0		
		Hord	Potol		127	127	85	78	33	29	20	56	52	32	36	39		
	ć	- poe			39	077	70	017	39	37	37	33	33	43	33	35		
	Total	solved solids	Edd u						74				101					
		o year							POl. 0.35				PO ₁₁ 0.05					
		Silico	(20(5)						ମ				15					
	million	5	<u>a</u>		0,0	0.4	0.3	0.2	0.2	0.1	0.0	0.0	0.1	0.3	0.1	0.2		
. 30a)	per mil	0.5	\rightarrow				7.0		0.2				0.1					
DIA. NO	i i								0.0				0.0				 	
LA DAM	a ports p	Chlo-	(i)		1.4	0.51	0.31	13	3.9	3.2	3.0	3.0	5.2	8.5	0.11	3.2		
LSABET	Ë	Sul -	(\$0\$)						9.0				7.4					
C BELLOW	tituents	Bicor-			3.15	3.18	2.13	1.90	03°0	17 0° 72	28	32	81	50 0.82	54 0.89	62 1.02		-
NERN ALVER BELLOW ISABELLA DAM (STA. NO. 358)	Mineral constituents	Corban-	(00)	<u>`</u>	0.0	0.0	0.0	0.00	0.0	0.0	0.00	0.00	0.0	0.0	0.00	0.0	 	
2	Min	Potos-	ξ.						1:6				1.3					
		myibo	(6 %		38	39	26	24 1.04	10 0.44	7.8	6.0	5.9	12 0.52	11 0.18	8.3	9.6	 	
		Mogne- S							0.11				2.3					
		Colcium	(62)		2.54	2.54	1.70	1.56	11 0.55	95.0	01.0	0.52	17 0.85	0.64	c 0.72	84.0	 	
		۵۳			7.8	8.1	7.5	7.5	7.8	6.8	7.1	8.9	8.1	6.9	7.1	6.7		1
	Spacific	Conductance (micramhos			топ	117	280	254	113	96	99	72	151	120	113	125		
		D	%Sot		91	82	89	89	68	92	업	92	95	83	86	91		
		Oissolved	mad		10.6	10.0	10.5	7.6	9.2	6.0	80	φ. 	0.6	7.6	₹ 1.8	10.0		
		Temp in oF			177	3	177	23	23	65	63	29	62	89	79	25		
		Dischorge Temp			19	26	 	;	773		1380	1	205	116	‡ 	Ħ		
		ond time	P.S.T.	1962	1/2	2/5	3/2	1600	5/1	6/1	7/2 0930	8/1	9/4	10/1 0930	11/11	12/3		Helia a

a Field pH.

b Laboratary pH.

c Sum of calcium and magnessum in epm.

c. Sum of calctum and magnessum in epm. d. opper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shawn. e Derived from conductivity vs TDS curves.

Gravimetric determination.

Determined by addition of analyzed constituents.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by Colifornia Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mneral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Cantrol Dystrict (SBCFCD), Metropolitan Water District of Southern California (MMD); Las Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

KERN RIVER NEAR KERNVILLE (STA. NO. 36b)

ſ		P	T												
		Anoly28d by i	risas												
		bid - Coliform ily MPN/mi	200	23. Maximum	Minimum 2.3										
	1	- pid - ty		σ.	72	7	15	35	7	12	2	77	40	m	٦
		N C.		0	0	0	0	0	0	0	0	0	0	0	0
		Hord Os Co	1	굯	1,8	1,8	34	19	16	ET	22	25	07	39	77
		sod -		η5	γ3	07	39	07	35	38	39	34	77	77	ñ
	Total	solved solved solids in ppm						S				52			
		Other constituents						Pol 0.05				PO1, 0.50			
		Silico (SiO ₂)						77				6.2			
	lion	, E		0.2	0.1	0.1	0.0	0.0	0:0	0.0	0.0	0.0	0.2	0.1	0.2
(0)	per million	Fluo- ride (F)						0.0				0.01			
JVC . JV	D 1	N-1 trote (NO3)						00.0				0.07			
(31 H e	equivalents	Chlo- ride (CI)		7.0	7.2	2.8	7.0	0.05	1.9	2.8 0.08	28	2.0	8.0	6.2	0.20
L'ELLIN V & L'EL	=	Sul - fots (SO ₄)			_			0.00				11.4			
NEAR O	constituents	Bicor – bonate (HCO ₃)		83	75	72	52 0.85	29	23	23	30	36	58	1.08	1.26
NEAN ALVEN NEAR ALMAYLLIZ (SIN. NO. 300)		Corbon-		0.0	00.0	00.00	0.0	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.0
걸	Mineral	Potos- sium (K)	 					0.0				1.1	-		
		Sodium (No)		18	17	15	10	6.1	0.17	3.6	6.4 0.28	6.2	13	15	17 0-74
		Mogne- Sium (Mg)						0.7				0.0			:
		Calcium (Co)		1.08	0.97	96.0	89.0	6.4	0.32	0.26	0.44	8.6	0.80	0.78	<u>0.94</u>
ľ		E E		7.8	7.9	7.3	7.5	7.6	6.B	7.4	7.2	6.2	7.2	7.5	7 ° h
	Specific	conductonce (micromhos at 25°C)		187	171	163	111	63	25	43	99	82	132	74/1	172
-		10		7.	82	68	986	8	16	8	35	06	91	88	87
		Diesolved oxygen		11.4	10.5	12.0	10.3	9.6	9.6	9.2	0.0	8.2	9.5	9.6	1.11
-		Temp In of		42	19	38	97	₹	55	28	63	89	65	53	F7
		Oischorge Temp in cfs in oF		151	242	1	101.8	1803		1572	-	30	-	1	1
		Date and time compled P.S.T.	1962	1/2	2/5	3/2	L/2 0950	5/1 1330	6/1 0945	7/2 0845	0260	9/4 1030	10/1 0900	11/1	12/3

b Loborotory pH

c Sum of colcium and magnesium in apm.

c. Sum of colcium and magnessium in epm.

d. Iron (Fe), oluminum (AI), orscied here os 0.00 except as shown.

d. Iron (Fe), oluminum (AI), orscied here os 0.00 except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Grovimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Survey of Reclamation (USBR); United States Policy (USPHS), Son Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern Colifornia (MWD); Los Angeles Department of Water and Power (LADMP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by Californio Department of Public Health, Division of Loborotories, or United States Public Health Service.

ANALYSES OF SURFACE WATER CENTRAL VALLEY REGION (NO. 5)

KINGS RIVER BELOW NORTH FORK (STA. No. 33c)

Anolyzed by I USGS Coliform MPN/mt Medlan 9.6 Maximum .620. Minimum 0.23 13 15 S Н 3 Н 9 a 8 $\overline{}$ Hordness os CoCO₃ Total N.C. 0 0 2 0 0 0 0 0 0 0 0 0 9 8 16 18 20 8 2 13 16 21 긤 9 28 35 30 28 31 59 30 31 31 30 28 32 Totol dis-solved solids in ppm 31 21 constituents 0.05 8 Other POL PO_1 Silico (SiO₂) 7.B 7.7 Boron (B) 0.0 잉 0.0 6 ं। 0.0 0:0 0.0 ं। 0.0 0.1 6 equivolents per million parts per million 0.1 0.3 Fluo-ride (F) 0.0 000 frote (NO₃) 2.2 2.0 0.1 0.0 2.0 000 1.8 2.1 2.5 3.2 0.03 Chlo-5.0 1.0 Sul -fats (SO₄) Ë Mineral constituents Bicar-bonate (HCO₃) 8 0.13 11 0.33 25 25 20 0.23 26 Corbon-010 (CO₅) 0.0 000 0.00 000 000 000 0.0 000 Potos-Sium (K) 0.7 0.6 Sodium (Na) 3.6 1.2 3.3 3.5 1.8 1.7 2.7 3.4 0.0 0.0 Magne-sium (Mg) Calcium (Ca) 0.32 0.13 0.17 0.31 0.36 07.0 0.39 0.42 0.28 3.2 F L.7 DHO 6.5 6.5 6.9 6.9 002 7.0 7.0 6.8 7.4 7.2 6.9 6.9 Specific conductance (micromhos of 25°C) 56 22 62 15 24 19 18 25 42 67 62 55 %Sat Oissolved oxygen 86 92 96 8 98 91 77 26 78 100 103 11 11.4 mdd 11.5 9.5 0.8 7.5 2.6 6.6 10.5 10.0 10,2 10.7 10,1 Discharge Temp 79 99 8 719 1,2 147 1,7 55 27 28 79 63 246 1310 272 413 1790 315 194 4079 6232 Date and time sampled P.S.T. 1210 7/2 8/1 11/15 9/3 10/1 1/2 5/1 6/4 1962 3/5

-2.70-

Laboratary pH

Sum of calcium and magnesium in epm.

Sum of calcium and magnessum in epm.
Iran (Fe), aluminum (AI), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr *6), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, as United States Public Health Service

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardina County Flood Cantrol District (SBCFCD); Metropolitan Water District of Sauthern California (WMD); Los Angeles Department of Water and Power (LADMP); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Mater Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

KINGS RIVER BELCW PEOPLES WEIR (STA. NO. 34)

		Analyzed by 1		USGS												
		As COCO3 Ity MPN/ml by I		S S S S S S S S S S S S S S S S S S S	62. Maxdmum	Minimum 0.23										
	Tu'l	bid- ity in ppm			2	m	11	93	īv.	m	ω	m	15	10	m	~
		000 g	Z E		0	0	0	m	0	Н	0	0	2	0	0	0
					19	75	92	28	16	12	6	10	Ħ	50	55	39
	ď	sod -			56	28	22	25	28	28	28	25	23	56	25	53
	Total	solved solids	E 00 C						37				50			
		Other constituents							ABS 0.0 PO _l 0.05				ABS 0.0			
		Silica	2 010)						9l				0.9			
	llion	Boron	9		0.0	0	0:	0.1	0:0	0.0	01	0.1	9	c)	0.0	0.0
(4)	per million	Fluo-	Œ.						0.0				0.1			
	equivalents per million								0.00				0.02			
1	Ainba	Chlo-	(C)		6.0	0.21	7.5	2.5	2.0	0.0	1.5	1.2	1.5	2.6	0.13	0.00
	ē	Sul -	(\$04)						3.0				0.0			
	constituents	Bicar -	(HCO ₃)		1.44	101	93	31	22 0.36	13	12 0.20	12 0.20	11 0.18	26 0.18	1.31	52 0.85
	Mineral con	Corbon-	(co ₃)		0.0	0.0	0.0	0.0	0000	000	0.0	000	0.0	0.0	0.00	0.0
	Ž	Patos-	(¥)						0.03				0.5			
		Sodium	(0 N)		11 0.48	13	10 0.UT	0.19	3.3	2.1. 0.10	1.7	1.7	0.07	3.3	9.0	5.1
		Mogne-	(Mg)						0.6				0.0			
		Colcium	(00)		1.34	1.50	1.52	0.50	5.6	0.24	91.0	0.21	3.7	0000	1.11	0.78
		e Ha			7.9	8.0	7.9	7.5	7.3	9 . 9	7.1	6.8	7.1		0.0	۲,
	0.000	(micromhos at 25°C)			178	506	200	7.1	S	314	56	28	31	29	151	104
			%Sot		96	102	56	76	103	102	96	26	101	26	94	8
		Dissolved	o maa		11.5	11.4	10.0	9.6	10.0	9.E	0\ 0\	œ	9.3	6.	9.1	ο, α
-		Temp in oF			115	S.	55	61	29	89	63	%	999	29	63	17
		Discharge Temp			32	27	3712	700	1156	1762	1962	1331г	1525	135	39	10
			P.S.T.	1962	1/9	2/2	3/6	14,35	5/8	6/6 1155	1610	8/8	9/5 1510	10/h 1120	11/7	12/5 11:00

b Laboratory pH.

Sum of calcium and magnesium in epm.

c. Sum of calcium and magnesium in opm.

d. Iron (Fe), aluminum (A1), arsenic (As), copper (Cu), lead (Pb), mongonese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shawn.

Derived from canductivity vs TDS curves

Determined by addition of analyzed constituents. Gravimetric determination.

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Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Divisian of Laboratories, ar United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5)

			Anolyzed by i	HSG S													
		1	Hordness bid - Coinform A as CaCO ₃ 11y MPN/mi Total N C. Ppm Ppm	ra : Day	4.2 Maximum 2400.	0.23											
		Tur-	- bid -		<u> </u>	10	22	0,	ν.	2	m	H	1	10	2	1	
			N C.		0	0	-	m	0	0	0	0	0	0	0	0	
			Hord as Co Total PPM		18	22	21	23	16	6	9	9	œ	10	10	10	
		G 7	sod -		254	23	24	25	30	17	32	28	23	56	22	25	
		Total	solved solids in ppm						31				18				
			Other constituents						PO1 0.15				Pol ₁ 0.05				
			(SiO ₂)			<u> </u>	01	-1	리	CL	CL	01	5.8		CI	01	
	uo	nillion	- Boron (B)		0	0.0	0	0.1	9	히				0	ं।	0	
. 336)	illim r	per million	Fluo- ride (F)						0.0				0.1				
KINGS RIVER BFLOW PINE FLAT DAM (STA. NO. 33b)	ports per million	equivolents	rrote (NO ₃)						000				0.00				
T DAM (-	edniv	Chlo- ride (CI)		1.0	1.8 0.05	2.0	0.05	1.3	0.8	2.0	0.8	0.8	0.03	0.03	0.0	
INE FLA			Sul - fote (SO ₄)						5.0				0.03				
BFLOW P	40000	ustituen	Bicor- bonote (HCO ₃)		25	27	24 0.39	25 0.41	21 0.34	12 0.20	10	0.11	0,10	14 0.23	14 0.23	0.21	
S RIVER	Minarol		Corbon- ote (CO ₃)		000	0.0	0.0	0.0	0.00	0.00	0.0	0.00	0.0	0.00	0.00	0.0	
KINGS	N		Potas- sium (K)						0.03				0.0				
			Sodium (No)		2.8	3.0	3.0	3.4	3.4	3.1	1.0	0.05	1.2	1.7	1.1	1.6	
			Mogne- Sium (Mg)						0.5				0.0				
			Coleium (Ca)		0.36	סיוים	0.112	211.0	5.6	0.18	or o	0.13	2.5	0.20	0.21	0.21	
		4	F.		£.	7.0	7.0	7.0	7.	6.9	7.0	6.5	7.1	6.9	6.7	7.14	
		Specific	conductance (micromhos at 25°C)		50	8	85	09	1,8	37	22	19	22	33	118	31	
					98	76	93	78	η6	%	86	977	8	110	30	102	
			Disso oxy oxy ppm		11.8	10.6	10.5	9.0	10.0	10.0	0.6	11.5	6.6	10.0	11.0	11.2	
			Temp in oF		145	R	55	₩.	귟	ᅜ	25	19	62	88	99	09	
			Discharge Temp		8 5	בונ		130h	3056	9109	7180	}	2302	1038	S.	}	
			ond time sampled P S.T.	1962	1/2 1345	2/5 13h5	3/5	1429	5/1	0077	1/2	8/1 1330	9/3	10/1 1240	11/5	12/3	

b Laboratory pH.

Sum of calcium and magnesium in epm.

Sum of calcium and magnesium in epm.

Iran (F.e.), oluminum (Al.), areacie (As.), capper (Cu.), lead (Pb.), manganese (Mn.), zinc (Zn.), and hexavalent chromium (Cr.*6), reported here as 0.0 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Benording Water and Power (LADMP); City of Los Angeles, Department of Surhern California (WMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Water Beach, Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

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ANALYSES OF SURFACE WATER CENTRAL VALLEY REGION (NO. 5) LINDSEY SLOUGH NEAR RIO VISTA (STA. 110)

		-	I															 1
		Anolyzed by 1			nscs													
		nppm MPN/mi			Median 95.	>7000. Minimum												
	1 2	- pid -			70	07	8	8	220	20	22	20	35	22	30	07		
		° 0	Z E		CV .	CV .	TI .	10	C/	7	0	0	0	0	7	10		 1
		0.00	Totol		79	82	8.	76	98	92	29	29	70	76	18	88		
	Par	L pog			32	32	775	32	30	33	33	34	34	30	33	31	_	
	Totol dis-	solved	E da u		143	1496	188°	175	125 ^f	144	122	122	$\frac{132^f}{134}g$	127 ^e	156 ^e	154е		
		Other constituents							Ae 0.01; ABS 0.0; POL 0.15				PO _{l, 0.25}					
	Ī	Silico	12010						15				ฤ					1
1	ion I	Baran	ía)		0.1	0.1	0.3	7.0	0.2	0.1	0.1	0.0	0:0	0:0	0.1	0.1		
million	per million	F tuo-	\rightarrow		-				0.2				0.01					
151	- 1	Ni -	(NO ₃)				-		0.0				1.6					
pod	equivalents	Chlo-	-		0.39	16	19 0.54	14 0.39	14 0.39	15	n 0.31	n 0.31	12 0.34	0.31	0.18	15		
'		Sul -							17				10 0.21					
a to		Bicor-			1.54	97 1.59	96	1.84	80	87	87	1:48	1.61	1.61	101	101		
	- 1	Corban - B			0,0	0.00	0,0	0.00	00.00	00.00	0.00	0,0	0.00	0.0	0.00	0.00		
No.		Potos-Co	Ž.				-		1.6				0.03					1
		Sodium	(0		17 0.74	1.0 0.78	30	21 0.91	14 0.61 0	92.0	15	0.70	17 0	15	0.83	18		
		Mogna- Soc	(6 (6		_lo	"lo	" i-i	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	6.8			10	0.70		10	10		 -
		¥ 6	€		30	°	ى كاد	D Lat		929		200		73l	98	2c		-
		Colcum	သိ		1.58°	1.64°	1.80	1.94°	0.80	1.56	1.34°	1.33°	0.70	1.52°	1.68°	1.75°		 4
_		Ę	-		7.3	7.6	7.5	7.7	7.5	7.3	7.5	7.7	7:5	7.9	7.3	7.5		-
	Spacific	(micromhos			235	745	308	88	201	237	201	201	208	208	256	253		
			%20¢		93	8	85	93	8	8.	8	101	95	88	57	42		
		Dissolved	6 wdd		4.6	9.01	9.3	8.9	9.1	8.1	7.7	6.9	4.8	8.2	5.7	8.9		
		Temp in OF	_		25	64	53	19	99	69	72	77	70	99	8	51		
		Oischorge Temp in cfs in ⁰ F		Tidal														
		ond time	P.S.T.	1962	1/8	2/7	3/8	1200	5/3	6/6	7/11	8/2 1400	9/5	10/3	11/8 1040	12/5		

o Field pH.

b Labarotory pH.

c. Sum of calcium and magnesium in epm

c Sum of calcium and magnesium in opm
d Iron (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Un), zinc (Zn), and hexavalent chromium (Cr ⁶), reparted here as 0.0 except as shown.
d Iron (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Un), zinc (Zn), and hexavalent chromium (Cr ⁶), reparted here as 0.0 except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

g Gravimetric determination.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Cantrol District (SBCFCD); Metropolitan Water District (SBCFCD), Metropolitan Water District (SBCFCD), Metropolitan Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated. h Annuel median and range, respectively. Colculated from analyses of duplicate manthly samples made by California Department of Public Health, Divisian of Laborataries, ar United States Public Health Service.

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TABLE 1-14 ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5) LITTLE POTATO SLOUGH AT TERMINOUS (STA. 99)

		Analyzed by i		USGS		_											
		bid - Californ Analyzed		Median 230.	Maximum 7000. Minimum	13.											
	Tur	- piq u		89	20	04	138	01	15	75	0	60	9	40	15		
		Hardness as CaCO ₃ Total N C.		7	56	82	80	7	16	0	-3	٦	0	0	7		
				78	83	70	24	50	38	99	17	77	69	70	57		
	Para	cent cad -		88	27	27	29	27	98	34	34	32	31	53	88		
	Total	solved solids in ppm		131 ^e	140	146	85 _e	91,	70e	109 ^e	133 ^e	141 1368	123 ^e	114е	100e		
		Other constituents						PO ₄ 0.15				PO ₄ 0.25					
		(Silica (SiO ₂)				·		16				19					
6	Illon	Boron (B)		000	0:3	<u> </u>	0.1	0.1	9	0:0	0:0	0.1	9	0	0.0		
allio.	per million	Fluo- ride (F)						0.1				0.1					
parts per million	equivolents	rrote (NO ₃)						0.0				1.1					
۵	equiv	Chlo- ride (C!)		17	16	0.34	9.2	0.34	8.1	12 0.34	23	20	0.54	17 0.48	16		
	C- 8	Sul - fate (SO ₄)						9.0				12					
	STITUENT	Bicar- bonote (HCO ₃)		86 1.41	69	56 0.92	77.0	52 0.85	27	78	82 1.34	93	84 1.38	72 1.18	61 1.00	_	
	Mineral constituents	Corban- ate (COs)		0.00	0.00	0.0	0.0	0.00	0.0	0.0	0.0	000	0.0	0.0	00.00		
	S. S.	Potos- sium (K)						0.03				0.03					
		Sodium (Na)		14 0.61	14 0.61	14	8.8 0.38	9.0	0.32	14 0.61	17	17 0.74	0.61	13	10		
		Calcium Magne- (Ca) Sium (Mg)						0.40				9.0					
		Calcium (Ca)		1.56°	1.66°	1.68°	0.94°	12	0.76°	1.20°	1.42c	16 0.80	1.38c	1.40c	1.140		
	ed	Q H d		7.3	7.1	7.1	7:1	7.3	7.0	7.4	7.5	7.3	7.5	7.3	7.1		
	Specific	(micramhas		219	233	777	142	137	117	182	221	228	205	190	167		
		1 6		833	87	91	93	87	10h	91	95	88	81	73	83		
		Oisso		10.0	9.8	10.2	9.4	8.2	7.6	7.9	89.2	7.7	7.6	7.5	9.3		
		Temp In oF		4.5	51	51	59	69	39	73	73	72	69	92	51		
		Oischarge Temp	Tidal														
	(ond time sampled	1962	1/10	2/13	3/7	4/5	5/9 5111	6/11	7/11	8/6 1245	9/4	10/8	11/14 1050	12/4		1

024

o Freld pH.

b Lobaratory pH

Sum of calcium and magnesium in epm.

Sum of calcium and inigration in term. I the sum of the

Derived fram canductivity vs TDS curves

Determined by addition of analyzed constituents.

Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Labaratories, or United States Public Health Service. Gravimetric determination.

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ANALYSES OF SURFACE WATER CENTRAL VALLEY REGION (N. . 5) TABLE B-14

MCCLOUD RIVER ABOVE SHASTA LAKE (STA. 18)

		Anolyzed by i	USGS											
		bid - Coliformh	Maximum 230.	Minimum 0.06	Median 6.2									
	<u></u>	n ppm	П	15	9	7	N	10	C)	ч	m	9	2	Ф
		S C C C	0	Н	-	0	0	0	0	0	0	0	0	0
			75	34	77	35	710	ςς. -3t	39	0 -7	·%	70	38	80
	d	sod -	17	13	15	18	19	24	77	23	23	22	25	18
	Total	salved solids in ppm					72 ^f				72f 698			
		Other constituents					Po ₄ 0.05				PO ₁ 0.10			
		Silico (SiO ₂)					22				72			
	Lion	Boron (B)	0.0	0.0	0.0	0:0	0.0	ं	0:0	0.0	ं	0.0	0:0	0.0
,	per million	Fluo- ride (F)					0.00				0.0			
	equivalents per millon	NI- trote (NO ₃)					0.0				0.00			
	equivo	Chia- ride (CI)	1.0	1.8	0.00	0.00	1.4	3.4	1.0	0.5	1.5	0.0	2.5	0.0
	c s	Sul - fore (SO ₄)					2.8				0.05			
	stituents	Bicar- bonate (HCO ₃)	59.0	99.0	52	0.80	54	50	54	56.0	0.90	58 0.95	0.90	5.7 0.93
	Mineral constituents	Corbon- ote (CO ₃)	00.00	00.00	0.00	00.00	00.00	0.00	00.00	00.00	00.00	00.00	000	00.0
	Z.	Potos- srum (K)					0.0				0.03			
		Sodium (Na)	3.9	2.2	3.7	3.7	4.3	4.9	5.5	5.5	5-3	5.4	5.7	0.17
		Magne- Sium (Mg)					2.9				3.2			
		Calcium (Co)	0.83°	0.680	0.086	0.72	0.55	0.680	0.76°C	0.80	9.2	0.80	0.75°	0 <u>.77</u> c
		a/b	7.3	7.0	7.5	7.8	7.5	7.7	8.1	7-7	7.5	7.5	7.9	F. 0.
	Specific	conductance (micromhos) at 25°C)	66	73	76	%	95	88	%	95	95	95	76	%
		lved gen %Sat	97	46	93	98	98	96	100	%	76	100	66	101
		Disso oxy ppm	11.7	17.7	11.2	11.3	9.6	10.4	10.6	10.4	10.6	11.2	11.7	5.51
		Temp in oF	45	45	45	617	629	54	55	57	53	51	24	2,
		Discharge Temp in cfs in oF	1,270	5,280	1,850	2,460	1,910	1,390	1,140	1,010	952	1 96	1,140	1,390
		ond time sompled P.S.T.	1/8	2/12	3/12	1,49	5/1	6/11	7/5	8/13	9/12	10/3	11/14	0000

a Field pH.

b Laboratory pH.

Sum of calcium and magnesium in epm.

c. Sum of calctum and magnessium in epin.
d. Iron (Fe), aluminum (A1), arsanic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chromium (Cr*6), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division af Laboratories, or United States Public Health Service (USPHS); Son Bernardino County Flood Cantral analyses and States Geological Survey, Quality of Water Bronch (USCS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Bronch (USCS); United States Department of Mater and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

		Analyzed by i		USGS													
		Hardness bid Coliformh de CaCO ₃ ity MPN/mi		Modium	18. Maximum	Minimum 0.06		-									
		- pig - pig			6		09	10	w	m	77	2	9	20	~	~	
		000	N C.		ø		9	00	0	0	0	0	0	m	0	2	
					K.		33	34	15	10	æ	©	2	28	30	30	
	ć	sad -			13		114	17	22	23	30	53	56	15	18	17	
	Totol	solved solids	E dd ci						%				77				
		Other constituents	- 1						PO1, 0.05				PO1, 0.05				
		Silica	(201C)						8 9.0				5.6				
<u></u>	lion	5	ĵ)		000		0.0	0.1	0.1	0.0	0.0	0.0	0.0	ं	0.	0.0	
NO 32	million per million	Fluo-							0.0				0.2				
M (STA.	ports per	1	(NO3)						0.0				00.0				
SQUER DA	d vine	Chlo-	(CD)		5.5		2.2	2.0	2.0	0.5	2.2	0.02	0.02	2.8	3.0	2.5	
OW EXCH	ē.	Sul -	\rightarrow						2.0				0.2			-	
VER BELL	constituents	Bicar			53 0.87		33	32 0.52	18	13	010	010	9 0.15	30	36	31,00.56	
MERCED RIVER BELOW EXCHEQUER DAM (STA. NO 32a)	Mineral car	Carban	(00)		0.00		0.00	0.00	000	0.00	0.00	0000	0.0	0.0	0.00	0.0	
W	Min	Potos-	3						0.7				0.2				
		Sodium	(ON)		3.7		2.6	3.3	2.0	1.3	1.6	1.3	1.2	2.h 0.10	2.9	0.17	
		Mogne-	(Mg)						0.10				0.7				
		Calcium			103		99.0	99.0	0.20	0.20	0.16	0.15	1.4	0.56	95.0	09.0	
		Hd S			7.8		7.3	7.1	7.3	7.0	7.1	6.8	4.9	7.3	7.1	7.6	
	Specific	(micromhos pH			125	بد	83	92	41	28	21	19	22	99	75	27	
			%Sat		106	transit	06	93	87	66	26	91	69	96	76	91	
		Dissolved	mdd		11.9	Sample broken in	10.5	10.4	8.7	10.8	10.0	0.6	6.1	7.7	9.2	10.0	
		Temp In oF			2	le bre	1,7	겂	52	23	53	61	29	70	99	52	
		Discharge Temp			35	Samp	1453	1754	5250	3900	1	i	1376	39	S	42	
		ond time sompled	P.S.T	1962	1/10	72	3/7	14/11 0835	5/10	6/8	7/13	8/7	9/u 111,5	10/5	11/9	12/7	

Field pH

b Laboratory pH.

c. Sum of calcium and magnesium in epm.

C. Sum or contain and integers on in the propert (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves

Gravimetric determination

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Carter District of Southern California (WMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Mater Resources (DWR); as indicated.

TABLE : C. STATES OF STATES

CENTRAL VALLEY REGION (NO. 5)

MERCED HIVER NEAR STEVINSON (STA. NO. 32)

		Anolyzed		USGS					-								
-		de CoCO ₃ Ity MPN/mi		Median	146. 1aximum 7000.	Minimum 6.2								-			
ľ	<u>_</u>	bid -			~	10	10	25	15	15	152	9	00	15	-17	0	
		200	O E A A		0	0	w	0	0	0	0	0	0	0	0	0	
			l' I		89	8	39	227	%	15	55	1 19	59	89	116	92	
	Q	sod -			39	017	50	35	36	24	100	777	977	3.9	ä	57	
	Totol	solved solved	mdd ui						119				156				
		2000							APS 0.0 PO ₁ 1.9				ABS 0.0 As 0.01				
		Silico	(SiO ₂)						2				75				
	million	Baran	<u>@</u>		0.0	9	्।	0-0	0:0	0.0	0.0	[]	0.0	0.0	0.0	0.0	
	per mi	Fluo-	(F)						0.0				0.0				
11.1	lents per	- Z	(NO3)						1.6				10.0				
	equivolents	Chlo-	(0)		15	14 0.39	2.8 0.06	8.6	9.4 0.27	0.02 0.02	10 0.28	15	11/1	14 0.39	19	0.54	
	Ē	Sul -	-						0.23				0.23				
	fifuents		(HCO ₃)		134	2.05	112 0.69	74	1.31	16.0	7.8	102	105	97	150	2.34	
	Mineral constituents	- 1	(500)		0.0	0.00	0.0	0.00	0.0	0.00	0.00	0.0	0.0	0.00	0.00	0.0	
	Mine	Polos- C	(X)						2.0				1.8				
		Sodium	(o z)		26	25	0.20	13	17 0.74	2.0	17 0.74	23	26 1.13	20	34	32 1.39	
		-auōoy	(6W)						5.1				6.1				
		Calcium Mogne-	(00)		1.77	1.65	0.78	1.08	0.70	0.29	1.10	1.28	16 0.80	1.36	1.88	1.81 c	
		_ <u>-</u>	- 1		8.2	8.1	7 • 3	7.8	8.1	7.0		7.6	0.80	7.9	7.9	8.0	
	Specific	(micromhos			288	274	100	165	188	70	172	526	2377	509	320	324	
			%Sot		104	80	98	96	102	86	88	87	116	102	112	95	
		Dissolvad	mdd		11.7	9.h	10.9	0.6	8.6	5.6	7.6	7.6	9.8	7°6	0.11	10.2	
-		Temp In oF			20	717	877	59	79	62	777	73	75	29	62 1	127	
		Dischorge Temp in cfs in oF			101	111	1310	3%	185	2680	707	101	150	173	120	112	
		Oote ond tras	P.S.T	1962	1/11	2/8 101/5	3/1	1240	5/1	6/5	2/3 0011	8/9 0715	9/7	10/5	11/8	12/6	

o Field pH.

b Labaratory pH.

c Sum of colcium and magnesium in epm.

Sum of colcum and magnesium in epin.

Iron (Fe), aluminum (Al), areaic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as 0.00 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyzes made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Water Department of Water and Power (LADWP), City of Las Angeles, Department of Surhein California (WAD); Las Angeles Department of Water and Power (LADWP), City of Las Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Las Angeles, Department of Water Resources (DWR); as indicated.

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ANALYSES OF SURFACE WATER TABLE B-14

CENTRAL VALLEY REGION (NO. 5)

			Anolyzed by I	USGS													
		Á	bid - Colifora liy MPN/mi	Maximum 2,400.	Minimum 0.23	Median 50.											
		Tur-	- piq - piq will madu	C)	04	æ	30	10	35	7	ľ	10	٦	72	m		
			N.C. PPM	177	0	CI	.#	4	13	00	7	đ	11	12	m		
			Hordness os CoCO ₃	58	30	94	32	34	38	745	74	83	70	5%	742		
		Per-	sod -	39	31	34	37	35	33	36	32	30	36	36	38		
		Total	solved solids in ppm					89f	-			163 [£] 168 ^g					
			Other constituents					Po _{1,} 0.00				Pol, 0.10					
			Silico (SiO ₂)					73				33					
		lion	Boron (B)	9.0	0.2	4.0	0.0	0.2	0.4	0.3	0.5	7.0	<u></u>	ं	· · ·		
	million	per mil	Fluo- ride (F)					0.0				0.01					
. 88)	orts per	equivolents per million	Ni- trote (NO ₃)					0.0				0.8					
ATS (STA	a	equiv	Chlo- ride (CI)	25 0.62	5.2	12	0.23	8.0	8.8	15	17	20	24	0.39	0.34		
EAR MOU	.9	- 1	Sul - fote (SO ₄)					13 0.27	0.40			14					
MILL CREEK NEAR MOUTH (STA. 88)	*******	1110111101	Bicor- bonots (HCO ₃)	5 ⁴ 0.89	38	5 ⁴ 0.89	34	37	30	41 0.67	82 1.34	96 1.57	72	51.0	7.0 0.77		
MILL	Moses ports per million	- 1	Corban- ote (CO ₃)	00.00	0000	00.00	0.00	0.00	00.00	00.00	00.00	0000	00.00	0.00	0.00		
	Mis		Potos- sium (K)					2.0				3.3					
			Sodium (No)	17 0.74	6.1	0.48	8.8	0.10	8.6	11	16	17.0	18	14	12 0.52		
			Mogne- sium (Mg)					3.5				9.2					
			Colcium (Co.)	1.100	0.61°	0.92°	±19°0	8.0	0.76	0.840	1.48°	0.90	1.41c	1.080	0.85		
			pH a/b	7.8	7.3	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7.6	7.7	7:1	7.5	7.9	7.7	7.9	7.3	7.8		
		Specific	conductance (micrombos at 25°C)	506	93	1,47	107	17T	122	747	224	250	229	179	151		
			1 5	ま	95	98	76	98	8	101	139	106	88	101	102		
		ć	oxygen oxygen ppm %Sc	11.6	0.11	11.8	10.7	10.6	0.0	9.1	10.6	9.6	₹. 80	10.1	11.8		
		ŀ	To ei	14.3	148	45	52	54	19	70	%	73	65	09	84		
			Dischorgs lamp in cfs in oF Est. by Sampler	8	022	200	100+	100	75	35	0	0	4	133	509		
			sompled P.S.T.	1/12	2/12	3/12	1005	5/1	6/20	7/2	8/1	9/11	10/1	11/11	12/10		

a Field pH

b Labaratory pH.

c Sum of colcium and magnesium in epm.

Louis transfer and second of the second of t

e Derived from canductivity vs TDS curves.

f Determined by addition of analyzed constituents.

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health (LADPH); San Bernardina Courtent of Water Department of Water and Power (LADMP); City of Las Angeles, Department of Multi-Health (LADPH); City of Lang Beach, Department of Water Resources (DWR); as indicated. h. Annual median and range, respectively. Calculated from analyses of duptrate monthly samples made by California Department of Public Health, Division of Laborataries, as United States Public Health Service.

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CENTRAL VALLEY REGION (NO. 5)

		Anolyzed by i		USBR								
		Hordnass bid Coliformh A										
		- bid -										
		3000 a	Total N.C. ppm ppm									
		Hore	Total ppm									
	,	Sod -			772	22	53	17	33	54	33	
	7010	solids	mod ni ⊗		Во	84	09	09	88	50		
		Other constituents	- 1									
	,	Silico	O(S)									
5	it lion	Boron	<u>ê</u>									
3b)		Fluo-										
(STA. 2	volente	- Z										
RIVER	6	Chlo-	5		3.6	77	2,8	3.6	3.6	1.4	4.3	
OSUMMES	ts in	Sul -										
ELOW C	stituen	Brear	(HCO ₃)									
MOKELUMNE RIVER BELOW COSUMNES RIVER (STA. 23b)	ero! com	Corbon - Bicor-	(00)									
MOKELUMIN	ž	Potos	(X									
	Mineral constituents in equivalents per million	a- Sodium			5.1	2.5	3.0	2.1	3.0	2.3	14.0	
		Magne	3									
		Coleium										
-		i a										
		Conductonce pH (micromhos pt 25,000)			91	64	%	53	75	41		
		Dissolved	%Sot									
			Edd									
		Temp in oF			15.4	95	62	29	72	17	8	
		Orschorge Temp in cfs in 9F		Tidal			1 - 1 - 1 - 1					
		Dots ond time	P.S.T.	1962	1/23	4/20 1135	5/14 1400	6/18	7/16	8/28 1200	11/13	

b Laboratory pH.

c. Sum of colcium and magnestum in epm.

c. Sum of calcium and magnesium in epm. d. sopper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*5), reported here as 0.0 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

32505-D-H (-01 270 JR h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service (USPHS), Son Bernardino County Flood Control District (SBCFCD), Muteral States Ceological Survey, Quality of Water Broach (USCS), United States Department of Water and Power (LADMP), City of Los Angeles, Department of Water Broach (LADMP), City of Los Angeles, Department of Water Resources (DMR), as indicated.

Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DMR), as indicated.

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ANALYSES OF SURFACE WATER TABLE 5-14

CENTRAL VALLEY REGION (NO. 5)

Date and time sompled P.S.T

1962 1/23 1010

5/14 6/18 7/16

8/28

Anolyzed by i

Califormh MPN/ml

Tur-bid-14y In posm Hordness os CoCO₃ Total N.C. Sod -200 56 59 98 34 32 59 Totol dis-solids in ppm 140 11^{4} 102 126 12^{4} 124 88 Other constituents Silico (SiO₂) Boron (B) equivalents per million ports per million Flua-ride (F) 23c) trote (NO₃) MOKELUMNE RIVER BELOW GEORGIANA SLOUGH (STA. Chio-8.5 5.0 ₽.9 7.8 13 6.6 6.6 Sul -fote (SO₄) 5 Mineral constituents Bicar-bonate (HCO₃) Carbon-ofs (CO₃) Potas-sium (K) Sodium (No) 9.5 6.4 9.7 껡 77 13 2 O) (Co) H Specific conductance (micromhas at 25°C) 108 140 173 163 178 175 152 %Sot Dissolved Edd Temp In oF 43 农 62 2 75 71 8 Discharge T

Laboratory pH.

Sum of calcium and magnesium in epm.

except as shown. Sum of calcium and magnesium in epm. Iron (Fe), oluminum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chromium (Cr⁺⁵), reported here as 0.00 0.00

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, ar United States Public Health Service.

32505-D-H 6-61 200 Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau af Reclamation (USBR); United States Public Health (LADPH); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles Department of Public Health (LADPH); Terminal Testing Laboratorites, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

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CENTRAL VALLEY REGION (NO. 5) MOKELUMNE RIVER NEAR LANCHA PLANA (STA. 23a)

	Anolyzad	p i		USGS													
	Colstormh	n ppm MPN/mi		Median 13.	Minimum												
	Tur- bid-	in ppm		m	8	30	240	00	5	Н	٦	⇒	15	m	-7		
	Hordness	SOS N D P		Φ	63	15	6	18	10	0	0	0	0	0	0		
	Hord	Totol Ppm		17	63	23	19	25	21	7	0,	Ħ	9	Ħ	7		
	Par-	- pos		25	15	19	31	21	25	32	35	92	33	62	29		
	dis-	solids in ppm		199q	152e	54°	59°	548	1,7e	26°	24°	24 f	25e	25°	25e		
		Other constituents						PO1, 0.00				9.5 Pou 0.00					
	L	(\$0.5)						위				9.5					
		Boron (B)		0:0	0:0	0:0	11	0:0	0:	0:0	0:	0:	0:0	0,0	0.1		
millio	equivolents per millor	Fluo- rade (F)						0.00				0.1					
orts per		hrota (NO ₃)					-	0.0				0.0					
	200	Chlo- ride (CI)		3.9	5.6	4.2	4.5	4.5	4.6	2.6	1.6	2.2	3.1	2.2	2.8 0.08		
<u> </u>		Sul - fore (SO ₄)		9.4	61			21 0.44				0.00					
stifuents		Bicor- bonote (HCO ₃)		0.18	0.00	15	0.30	0.13	13	15	14	13.0	14 0.23	15 0.25	1 th		
Minerol constituents		Corbon- ofs (CO ₃)		0.00	0.0	0.0	0.00	0.00	000	0.0	0.00	00.0	0.0	0.0	0.00		
Σ		Potos- sium (K)		2.0				2.6				0.01				_	
		Sodium (No)		3.1	5.1	0.13	4.0	3.5	3.3	0.11	2.2	0.08	2.4	0.00	0.09		
		Mogne- Sium (Mg)						2.3				0.03					
		(Co)		0,340	1.25 ^c	0.54c	0.38°	0.30	0.42c	0.230	0.17c	3.8	0.20c	0.22°	0.22°		
	ماه	ī		7.1	5.8	7.3	6.4	0.9	6.9	7.1	7.1	0.7	6.9	7.0	6.9		
	Specific	(micromhos at 25°C)		R.	192	83	75	82	65	33	30	53	31	31	32		
		6		106	101	103	109	103	111	102	104	104	66	%	9%		
	Dissolvad	wdd bbw		11.9	11.4	11.9	11.9	11.5	11.5	10.3	10.3	10.3	9.6	10.0	10.3		
	Temp	in of		51	90	617	53	51	57	59	61	61	61	92	53		
	Discharge	in cfs in oF		93.	86	701	706	70¢.	2570	117	700	337	337	318	311		
	Dote	sampled p S.T	1962	1/10	2/14 1515	3/8 1340	1,75	5/10	6/11	6/2	8/1	9/5	10/2	11/13	12/6		

o Field pH

b Loboratory pH

c. Sum of colcium and magnesium in term.

d. Iron (Fe), aluminum (A1), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as 0.0 except as shown. c Sum of colcium and magnesium in epm

Determined by addition of analyzed constituents. e Derived from conductivity vs TDS curves

g. Grovimetric determination.

Mineral analyses made by United States Geological Survey, Duality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Water and Power (LADMP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); This of California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5) MOKELUMNE RIVER AT WOODBRIDGE (STA. 23)

Γ		2	П															
		Anolyzed by f		USGS												1		
	1	Hordnese bid - Coliform oc CaCOS IIY MPN/ml		Median 62.	Minimum	N N												
	1	- pig		S	30	20	35	8	10	н	01	5	υ.	α;	R			
1		CO ₃ N C.		11	59	71	11	18	13	0	O		0	0	0			
		Hordr oe Co Total ppm		50	27	30	23	50	23	য	10	17	14	<u>:</u> •	12			
	0	sod -		8	21	20	82	59	55	31	33	75	56	36	31			
	Total	solved solids in ppm		55e	906	63	52 ^e	59 ^f	1456	. 27 ^e	24e	34 F	28°	39E	59e			
		Other constituents						ABS 0.0; POL 0.00				As 0.00; ABS 0.0; FO _{1,} 0.00						
		Silica (SiO ₂)						긔				21						
	lian	Boron (B)		0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0			
io III w	per millian	Fluor ride (F)						0.2				0.0						
norts per million		rrote (NO ₃)						0.00				0.4						
	equivolents	Chla- ride (CI)		4.2	4.8	5.0	6.2	5.0	5.0	3.5	2.2	2.0	2.4	1.5	3.0			
i	Ē	Sul - fote (SO ₄)		16				26				0.00						
	constituents	Bicar- bonate (HCO ₃)		11 0.18	16 0.26	19	15 0.25	2 0.03	270	16 0.26	1 th	20	0.30	16 0.26	0.26			
	Mineral can	Carban- ate (CO ₃)		0.0	0.00	0.0	00.00	0.0	0.00	00.00	00.00	0.00	0,00	0.00	00:00			
	Min	Patas- (K)		0.10				3.9				0.3						
		Sodium (No)		3.0	5.4	3.5	4.2	4.5	2.9	2.5	2.4	2.5	2.4	2.1	0.11		•	
		Magne- Sium (Mg)						0.10				0.0						
		(Ca)		0.40c	0.84c	0.60°	0.46°	6.0	297°0	0.25c	0.20c	5.6 0.28	0.28c	0.26°	0.24c			
	ed	OH O		5.9	7.1	6.9	6.6	6.0	6.4	7.1	7.0	7.0	7.1	7.1	7.1			
	Specific	conductance (micromhas at 25°C)		75	122	85	77	81	19	37	33	14.3	82	35	35			
		1.5		8	001	102	102	103	105	66	102		76		96			
		Oissolved oxygen ppm 0%Sc		11.7	10.9	1.7 1	10.5 1	10.2	10.6	8.8	9.0	9.1	7.6	6.6	10.5			
-		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		94	53	649	- <u>-</u>	61 1	59 1		7.1	99	63	57	53 1			
		Otscharge Temp		19	362	902	364	592	599	238	215	52	114	241	232			
		ond time sompled	1962	1/10	2/14	3/8 0945	4/5	5/10	6/11	7/5	8/1	9/6	10/8	11/14	12/4			

o Field pH

b Lobarotory pH.

c Sum of calcium and magnessum in epm.

c sum of carcium and magnessian in spire.

On the feet of transfer of the state of

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Colculoted from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loborotories, or United States Public Health Service (USPHS); Son Bernardina County Flood Control District (SBCFCD), Metapolitan Water District of Southern California (WMD); Las Angeles Department of Water and Power (LADMP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY RECION (NO. 5)
OLD RIVER AT CLIFTON COURT FERRY (STA. 104)

		Anolyzed by i		nscs													
	-	Ity MPN/mi		Median 210.	77000. Misimum												
	- 12 - 12 - 12	7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 -		01	20	25	15	25	30	10	8	35	15	15	6		
		Totol N.C.		155	39	75	54	31	39	7	7	10	13	96	3F		
	7	Totol Ppm		308	114	122	126	8	700	3	73	81	91	170	100		
	Par-	pos pos pos		25	55	53	64	77	83	04	20	20	53	53	52		
	dia-	solved solids in ppm		757e	288°	315e	2996	211f	234°	128°	166°	198 ^f 193 ⁶	220e	437°	264°		
		Other constituents						PO ₄ 0.81				PO _{1, 0.15}					
		Silico (SiO ₂)						피				15					
	U	Boron (B)		0.5	0.3	7.0	0.3	0:0	0:1	0.1	0:0	0:0	0.1	0.2	0.2		
million	equivalents per million	Flug- ride (F)						0.0				0.0					
rfs par		trote (NO ₃)						0.0				0.03		_			
8	900100	Chio- rids (CI)		236	73	73	76	1.58	62	26	39	50	1.64	3.64	2.03		
ē	- 1	Sul - fote (SO ₄)						31 0.65				22 0.46			_		
atituents		Bicar- bonate (HCO ₃)		3.06	91	1.61	1.44	82 1.34	74	1.15	1.31	986	95 1.56	139 2.28	80		
Mineral constituents		Carbon- ote (CO ₃)		0.0	0.00	0.0	0.00	0.0	0.0	000	00.0	0 0	00.0	0.0	0.00		
Min		Potos- Sium (K)						2.5				0.05					
		Sodium (No)		154 6.70	2.44	63	2.44	36	1.83	20	33	39	2.04	3.87	2.13	_	
		Mogne- sium (Mg)						0.85				0.82					
		Co)		6.16	2.28€	2.440	2.52	1.10	2.00	1.28°	1.469	0.80	1.82°	3.40°	2.01°		
L	6	H H		7.9	7.3	7.4	7.5	7.6	7.4	7.3	7.3	7.5	7.0	7.5	7.3		
	Specific	conductonce (micromhos at 25°C)		1330	906	553	526	377	412	225	291	336	387	768	1911		
				76	- 29	62	8	105	105	92	98	10	88	986	70		
		Disso osy osy		9.1	4.9	8.5	8.2	9.5	9.5	4.9	7.4	7.1	7.9	4.8	7.8		
		Temp in OF		54	53	式	88	69	69	92	74	75	69	62	22		
		Discharge Temp	Tidal														
	_	ond time sompled P.S.T.	1962	1/10	2/15	3/8	14/11	5/8	6/5	7/10	8/7	9/6	10/4	11/13	10/01		

b Loboratory pH

c. Sum of calcium and magnessium in opm.

I consider the magnessium of the compact (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+S}), reparted here as \$\frac{0.0}{0.00}\$ except as shown.

Sum of calcium and magnesium in epm.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Health Service (USPHS), Son Bernardino County Flood Control District (SBCFCD), Metropolitian Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service. Gravimetric determination.

TABLE B-14

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

		Anolyzed by i	USBR												
		Hardness Tur-Coliformh as CoCO ₃ 11ty MPN/ml Total N.C. nppm													
		Pid- bid- ty- mppm			-										
		0003 N C.													
		Hordr os Co Totol ppm													
		Control of the contro		38	39	27	82	33	32	39	77	67	44	177	
	1	solids cent		356	516	384	180	120	148	160	176	596	168	228	276
		Other constituents													
		Silico (SiO ₂)													
	وان	5													
	r million	Fluo-													
108a)	ports per million	rote (NO ₃)													
r (STA		Chlo-		99	114	778	88	15	23	92	61	81	36	45	19
ND TRACT	ē.	Sul - fote (504)													
T HOLLA	stituent	Bicor- bonote (HCO ₃)													
OLD RIVER AT HOLLAND TRACT (STA. 108a)	Mineral constituents	Corbon- ote (CO ₃)							,						
OLD	Min	Potos- sium (K)													
		Sodium (No)		17	77	57	22	13	16	8	32	64	88	E .	
		Mogne- sium (Mg)													
		Colcium (Co)													
-		I a													
		Specific conductonce (micromhos of 25°C)		539	785	288	255	172	219	422	317	437	576	331	054
		Disselvs d oxygan ppm %Sot													
		Ten or		27	52	52		99	73	17L	75	2	63	82	75
		Dischorge Temp	Tidal												
		Dots ond time sompled P S.T.	1962	1/22	2/14	3/12	1345	5/15	6/19	7/17 0935	8/14	9/17	10/16	11/14	14.20

=:4

b Loborotory pH.

c Sum of colcium and magnesium in epm.

d Iron (Fe), oluminum (AI), orseric (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves

Grovimetric determination.

h Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by Colifornia Department of Public Health, Division of Loboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureou of Reclamption (USBR); United States Public Health Service (USPHS); Son Bernardino Country Flood Control District (SBCFCD); Metropoliton Water District of Southern Colifornia (WMD); Las Angeles Department of Water and Power (LADMP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Water Resources (DWR); as indicated.

32505-D-H 0-61 200 JPO

CENTRAL VALLEY REGION (NO. 5) OLD RIVER AT MANDEVILLE ISLAND (STA. 112)

		Anolyzed by 1		USGS											
	4	bid - Coliform		Median 95.	>7000. Minimum	ĵ									
	Tur	- piq ki- mod u		14	22	35	25	110	25	8	15	35	30	15	00
		Hardness as CoCO ₃ Total N.C. pam ppm		m m	81	52	32	10	5	٦	4	17	(r)	13	18
		Totol Pom		104	156	971	96	917	59	92	70	88	82	88	95
	P	sod –		35	41	911	917	31	37	8	51	99	24	75	গৰ
	Total	solved solids in ppm		193°	320°	272 ^e	218 ^e	93 ^f	111e	108°	169	255 ^f 232 ^g	175 ^e	184°	203
		Other constituents						7 A8 0.01; ABS 0.0; PO ₄ 0.15				A8 0.00; ABS 0.0; PO ₁ 0.00			
		Silica (SrO ₂)	_	di	61	mı	QII.	1 17	01			177	O1	di	di di
6	per million	- Boron (B)		0.1	0.9	0.3	0.2	1 0:1	0:0	0.1	0.1	1 0:1	<u></u>	0.1	1.0
100		Fluo- ride (F)						0.2				0.0			
norte per million	equivalents	trote (NO3)						0.7				0.8			
i c	equive	Chig- ride (CI)		37	103 2.91	59 1.66	53 1.50	<u>7€*0</u>	16	16	41 1.16	72 2.03	37	38	4.5 1.27
	ĉ	Sul - fate (SO ₄)						0.23				41 0.85			
	constituents	Bicor- bonate (HCO ₃)		1.43	91	80	78 1.28	50 0.82	99.1	69	80	96	96	251	9 ⁴ 1.5 ⁴
	Mineral con	Carbon- ote (CO ₃)		0.00	0.00	0.0	0.0	0.0	0.00	0.0	0.00	0.00	0.0	0.00	0 8
	Mine	Potos- Srum (K)						1.4				2.6			
		Sodium (No)	-	26	2.18	2.04	38	9.9	16	02.0	34	5 ⁴ / _{2.35}	33	29	34 1.48
		Magne- srum (Mg)						4.5	_			21 0.95			
		Calcium (Ca)		2.08€	3.12°	2.36°	1.92°	0.55	1.18°	1.16°	1.40°	0.80	1.64°	1.77c	1.90
	ø	P H		7.1	7.1	7.3	7.3	7.3	7.2	7.7	7.4	7.5	7.5	7.5	7.7
	Specific	(micromhos		333	552	694	375	143	192	187	291	414	305	317	350
-				85	8	89	93	105	76	8.	8%	89	93	76	78
		Dissolvad axygan ppm %So		10.0	9.6	9.6	8.8	9.1	8.4	7.6	8.0	7.7	8.2	9.3	9
		Temp in oF		1 ⁴	53	₹ <u></u>	69	73	70	75	72	73	17	61	23
		Discharge Temp in cfs in aF	Tidel												
		ond time sampled P.S.T.	1962	1/11	2/15 1410	3/8	4/4 1330	5/7	6/5	7/9	8/2 0945	9/6	10/2	11/13	1170

b Loboratory pH.

c Sum of calcium and magnesium in epm.

c. Sum at calcium and magnesium in epin.
d. Iran (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr⁺⁶), reported here as 0.0 except as shown.
d. Iran (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr⁺⁶), reported here as 0.0 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laborataries, or United States Public Health Service (USPHS), Son Bernardina County Fload and Public Health Service (USPHS), Son Bernardina County Fload (SRCPCD), Metropoliton Water District of Southern California (WMD). Las Angeles Department of Water and Power (LADMP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TIL); or California Department of Water Resources (DWR); as indicated.

ANALYSES OF SURFACE WATER TABLE H-14

CENTRAL VALLEY REGION (NO. 5) OLD RIVER AT ORWOOD BRIDGE (STA. 108)

- 2			_														Ť
		Anolyzed by i		USGS													
		bid - Califormh		Median 130.	77000. Minimum												
		E dd		35	07	2	35	35	50	50		25	25	15	15		
		Hardness os CoCO ₃ Total N.C. ppm ppm		174	203	50	07	97	21	0		12	21	911	24		
		Hardi Os Co Total		271	334	131	111	8	98	59		83	91	144	121		
		sod -		1777	52	53	84	36	04	07		53	50	51	51		
	Total	C		552 ^e	781 ^e	339 ^e	254e	121 ^f	132 ^e	115e		212 ^f 221 ^g	206°	351	312e		
		Other constituents						PO ₄ 0.69				PO ₄ 0.15					
		Silica (SiO ₂)						15				174					
	lion	Baran (B)		7.0	0.8	4.0	0.2	0.0	0,0	0.0		0.0	0:0	0.1	0.2		
	equivalents per million	Fluo- ride (F)						0.2				0.2					
	5	rrote (NO ₃)						0.7				0.02					
	ē	Chlo- ride (CI)		3.98	234	999	64 1.81	20	27	19		60.1	53	2.76	86		
		Sul - fate (SO ₄)						17				23					
:	stituent	Bicar- banate (HCO ₃)		118	160	1.62	86	1,00	1:1 88	1.15		86	36	120	96		
	eral con	Carbon- ote (CO ₃)		0.00	0.0	0.0	0.0	0.00	0.00	0.0		0.0	0.0	0.00	0.00		
	Ε	Potos- sium (K)						1.8				2.0					
		Sodium (Na)		97	164	3.00	47	16	21 0.91	0.78		1.91	1.83	2.96	2.52		
		Mogne- sium (Mg)						6.7				10 0.86					
		Colcium (Ca)		5.42c	969.9	2.62°	2.22c	13	1.36c	1.13°		16 0.80	1.81°	2.88°	2.42c		
		DH O		7.1	7.3	7.2	7.3	7.1	7.2	7.3		7.3	7.3	7.7	7.3		
	Spanific	canductance (micramhas at 25°C)		982	1390	603	4.52	205	235	205		373	367	625	556		
				75	72	83	98	82	82	81		81	83	82	2		
		Oissolved oxygen ppm %Sc		80	7.9	8.9	8.0	7.3	7.2	2.9		6.9	7.5	8.2	7.9		
		Temp in oF		84	53	54	9	70	72	@ @	per	75	69	8	51		
		Discharge	Tidal								Not Sampled						
		Date ond time sompled P S.T	1962	1/11	2/15	3/8	11/11	5/8 1215	6/6	7/10	9/8	9/6	10/4	11/13	12/10		

a Field pH.

Laboratary pH.

Sum of calcium and magnesium in epm.

Sum or calcium and magnession in Epin.

Iron (Fe, a cluminum (Al), aronne (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr *5), reported here as 0.00 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents. Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses at duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Bealons and Water Branch (USGS); United States Department of the Interior. Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior (USBR); United States Geological Survey, Duality of Water Branch (USBR); United States District (SBCFCD), Metropoliton Water District of Southern California (UMD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5) OLD RIVER NEAR TRACY (STA. 103)

		Anolyzed by i		USGS												
	4	Hordness bid - Coliform" os CoCO ₃ ily MPN/mi Total N C. ppm ppm		Median 210.	7000. Minimum											
	Torr	- bid - ity in ppm		11	15	25	25	25	1,0	15	8	35	~	10	8	
		N COS		156	136	04	81	82	87	93	108	98	88	92	36	
		Hord Os Co Tatai PPm		326	287	119	183	160	138	224	264	250	225	192	116	
	Par.	sod –		51	55	53	50	9	8	52	53	51	53	53	51	
	Total	solved solids in ppm		756e	717 ^e	299°	423°	362 ^f	319 ^e	523 ^e	623 ^e	611 ^f 615 ^g	534°	l ₄ β3 ^e	279	
		Other constituents						PO _L 0.00				PO ₄ 0.25				
		(\$10.2)						<u> </u>				ଅ				
	Ilion	Boron (B)	L	0:5	0.7	7:	7:0	잉	0:1	0.2	0:5	0.3	0.2	0.2	0.1	
m Silio	per million	Fluo- ride (F)						0.1				0.2				
ports per million	equivalents	Ni- trate (NO ₃)						0.0				2.1				
١	equive	Chio- ride (CI)		976-9	230	70	3.44	2.99	93	180	211 5.95	201	164 4.63	3.98	81	
	0, 1	Sul - fote (SO ₄)						55 1.15				72				
	stifuenti	Bicar- bonote (HCO ₃)		3.39	180	96	2.05	124	1.80	160 2.62	3.11	3.28	2.92	164 2.69	97 1.59	
	Mineral constituents in	Carbon- ote (CO ₃)		0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	0 0	0.10	0.00	0.0	
	Σ	Potos- (Sium (K)						0.11				5.0				
		Sodium (Na)		157 6.83	160	62 2.70	3.70	3.04	64 2.78	110	139	124 5.39	5.00	100	2.39	
		Mogne- Stum (Mg)						17				2.01				
		Colcium (Co)		6.52°	₹.68°	2,38€	3.66°	36 1.80	2.76	1.1Bc	5.276	96.5	4.50°	3.85	2.31°	
	æ	P H d		8.0	8.1	7.6	7.6	7.7	7.7	7.9	7.6	7.9	9.1	7.4	7.4	
	Specific	(micromhos at 25°C)		1360	1290	538	760	9119	574	046	1120	1080	096	869	505	
		1 5		48	17	81	124	139	122	8	105	705	119	55	1,5	
		Oisso oxy ppm		10.0	7.8	8.7	11.4	11.7	11.11	6.9	8.9	8.9	10.9	5.6	5.1	
		Temp in OF		947	52	54	19	92	88	73	75	72	38	59	51	
		Dischorge Temp	Tidal													
		ond time sampled P.S.T	1962	1/10	2/13 1350	3/7	4/9 141G	5/7	6/5	7/10	8/8 1030	9/6	10/4	11/14	12/21	

a Field pH

b Laborotory pH

c Sum of colcium and magnesium in epm.

c. Sum of colcium and magnesium in epm.

d. Iron (Fe), olumnium (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

f Determined by addition of analyzed constituents. e Derived from conductivity vs TDS curves

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USSS); United States Department of the Internal Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health, Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated.

TABLE B-14 ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

		Analyzed by i		USGS											
		Hardness bid - Coliformh of CaCO3 ity MPN/mi													
	,	- bid - yi		C/J	50	m	m	-7	m	C/I	m	m	C/J	5	10
		0003	D E	0	0	0	0	0	0	0	0	0	0	0	0
		Hard 08 C	Totol PPm	77	32	48	62	62	76	72	72	77	79	82	42
	4	Sod -		33	27	56	33	32	32	33	35	35	36	33	24
	Total	solids solids	E 0.0					139 ^f				168 ^f 183 ^g			
	-	Other constituents						Po _{1, 0,20}				PO ₄ 0.15	Tot. Alk. 122		
		Silica	2					91				14			
	illion	Boron		0.3	0.0	0.1	0.2	0.2	7.0	0.2	0.5	7:0	0.3	0.3	0.0
8)	million	Fluo-	Œ.					000				000			
STA. 88	equivolents per million		(NO ₃)					00.00				0.02			
BLUFF	8 QUI	Chlo-	<u>ē</u>	15	0.00	4.8	7.2	9.5	13	13	14	16	18	14	0.08
R RED	Ē	Sul -	(804)					0.04				000			
PAYNES CREEK NEAR RED BLUFF (STA. 88g)	constituents	Bicar- banate	(HCO3)	108	39	99	90 1.48	1.54	107	108	1.90	119	1.90	11.95	1.05
PAYNES C	Mineral cor	Carbon-	(CO ₃)	0000	000	000	0000	00.0	00	000	0.0	000	3.10	000	00.0
	M.	Potas-	3					1.5	· -			1.3			
		Sodium		17	3.8	0.33	14	14	0.70	02.0	18	19 0.83	20	0.83	0.27
		Magne- sum	(Mg)					7.8				0.84			
		Calcium		1.47	0.64	0.96	1.24	12	1.52	1.440	1.440	1,4 0.70	1.57c	1.65c	0.85
		I	a/b	7.5	7.5	7.7	8.0	7.7	8.1	8080	88.0	7.5	8.3	7.7	7.9
		(micromhos		213	75	124	168	184	205	205	216	234	235	231	113
			%Sat	ま	98	98	105	98	103	140	124	119	103	101	80
		Dissolved	Edd	10.2	9.01	10.1	10.5	6.9	7.6	12.2	10.5	10.8	8.	10.1	11.3
		Temp in of		75	647	29	09	69	69	73	76	69	59	9	64
		Discharge Temp	Est. by Sampler	18	200	35	10	01	50	18	ζ,	50	50	50	0,0
			P.S.T. 1962	1/10	2/14 1035	3/13	4/11 1010	5/3	6/8	7/2	8/1 1415	9/11	10/1	11/21	12/19

a Field pH

b Laboratory pH.

c. Sum at calcum and magnessum in epin.

I Iron (Fe), aluminum (A1), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown. Sum of colcium and magnesium in epm.

Determined by addition of analyzed constituents.

Derived from conductivity vs TDS curves

g Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood County District (SBCFCD), Metropoliton Water District of Southern California (WMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); Gity of Long Beach, Department of Water Resources (DWR), as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

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CENTRAL VALLEY REGION (NO. 5)

			Anolyzed by 1	SSSO											
			Hardness bid - Coliform of CoCO ₃ ity MPN/ml Total N.C.												
		Tur-	- bid - ity in par	15	50	120	8	20	m 		CI		80	6	5 ₹
			N COOR	0	0	0	٥	0	0	0	0		2	0	0
1		1	Total ppm	75	38	999	58	77	06	98	77		32	778	17
Ì		Par	sod -	43	37	75	31	36	75	Ŝ	17		37	38	34
		Total	solids in ppm					160f							
			Other constituents	-				PO _{1,} 0.00	Tot. Alk. 158	Tot. Alk. 171	Tot. Alk. 160				
j		-	(SiO ₂)	-				27							
	_	Loi	Baron (B)	0.1	0.1	0.0	0.1	0.2	0.1	0.1	0:0		0:1	0.0	.0
	E	per million	Fluo- ride (F)					0.0							
. 17e)	ě	equivolents	Ni- trote (NO ₃)					0.00							
R (STA		edoi	Chlo- ride (CI)	5.8	0.05	8.0	2.8	0.31	7.5	8.2	16		3.0	1.5	0.05
PIT RIVER NEAR BIEBER (STA. 17e)	. u		Sul - fote (SO ₄)					0.23							
ATVER NE	stituent		Bicor- bonote (HCO ₃)	136	54	100	1.39	121	2.51	157	45.0		50 0.82	137	1.39
PIT I	Mineral constituents		Corbon- ote (CO ₃)	0000	000	00.0	0.00	0000	0.01	0.23	1.90		00.0	0.00	000
	ž		Potos- sium (K)					0.10							
			Sodium (No)	26	10	0.96	12 0.52	0.91	30	370	2.48		8.7	0.96	0.52 0.52
			Mogne- sium (Mg)					4.8							
			Colcium (Co)	1.50	0.76°	1.32°	1.16°	17 0.85	1.800	1.72	0.86°		0.64°	1.500	1.02
			8/b	7.7	7.1	7.5	7.7	200	2 0 2 0	8.5	90 D		7.0	8.1	H .
		Specific	conductance (micromhos of 25°C)	264	131	220	152	223	275	36	307		98	240	149
			7 7	80	81	79	88	93	61.	%	126		99	101	83
			Discolved oxygen ppm %S	11.5	11.7	10.7	6.9	0.6	7.9	7.7	11.1		7.7	12.2	10.0
ŀ			0 E B C C C C C C C C C C C C C C C C C C	£	33	37	55	63	9	70	72		848	45	54
			Discharge in cfs	56	355	1488	708	29	8	23	2	0	8,270	224	830
		Oote	. o .	1/10	2/13	3/13	1200	5/2	41/9 0800	7/10	8/15	9/17	10/16	11/19	1200

b Loboratory pH.

c Sum of colcium and magnesium in epm

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Survey of Canadian States Public Health Service (USPHS), Son Bernardino Canady Flood Canada Survey, Metropolitan Water District of Southern California (SWD), Los Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); ar California Department of Water Resources (DWR); as indicated.

of

CENTRAL VALLEY REGION (NO. 5)

		Anolyzed by i	USGS											
		bid - Coliformh	Maximum 2,400.	Minimum 0.62	Median 26.									
		mdd u	50	700	200	75	50	15	15	1/2	35	100	15	20
		N N N	0	0	0	0	0	0	0	0	0	0	0	0
			91	L+7	1 00		77	75	106	113	115	39	76	62
	-	Sod -	917	141	142	31	35	777	41	38	077	42	017	39
	Total	dis- solved solids in ppm					170f				247 [£] 2488			
		Other constituents					PO _{L 0.35} As 0.00 ABS 0.0				PO _{1, 0.55} As 0.01 ABS 0.0			
		Silica (SiO ₂)					젊				34			
	million	8_	0.1	0.0	0.0	0.1	0.1	0.0	0.2	0:0	0.1	0.1	0:0	0.1
	per mil	0.90					0.0				0.0			
17a)	œ						0.0				0.0			
PIT RIVER NEAR CANBY (STA. 178)	ports p	Chia- ride (CI)	13 0.37	5.1	12 0.34	1.4	5.2	8.0	6.0	8.6	9.5	4.0	7.5	0.16
AR CAMB	č	Sul - fote (SO ₄)					13				19			
IVER NE	stituents	Bicar- bonote (HCO ₃)	163 2.67	72	2.20	1.02	126	166	3.05	187 3.06	3.31	63 1.03	136	1.74
PIT R	Mineral constituents	Corban- ofe (CO ₃)	00.0	00.00	00.00	00.00	00.00	00.00	00.00	000	00.00	00.00	000	0000
	N.	Polas- sium (K)					4.9				6.0			
		Sodium (No)	35	15	28	0.43	21 0.91	34,1	34	32	38	13	23	1.8 0.78
		Mogne- Stum (Mg)					6.7				12 0.95			
		Calcium (Ca)	1.52°	346.0	1.68	18.0	20	1.88°	2.120	2.20c	1.35	0.78	1.53°	1.24
		PH a √a	70	7.4	7.7	8.0	7.0	0 00	80	7.4	8.1	7.2	8.1.3	No.
	0	specific conductance (micromhas at 25°C)	333	157	279	134	234	302	324	323	362	132	250	201
		10	80	75	80	85	93	88	93	83	104	72	95	8
		Disso oxyg ppm	10.6	10.2	10.5	9.3	80	8.0	7.7	7.3	9.3	7*.8	11.5	10.0
		Temp In OF	39	3.7	33	53	65	19	82	72	7	Q ₇	7	₩7
		Dischorge in cfs	35	630	150	385	170	13	35	54	16	3,090	14	348
		bote and time sampled P.S.T.	1/10	2/13	3/13	1,710	5/2	6/14 0925	7/10	8/15	9/17	10/16	11/19	1330

b Laboratory pH.

c. Sum of calcium and magnesium in epm.

c. Sum at calcum and magnesium in epim.

d. Iron (Fe), aluminum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reported here as \$\frac{0.0}{0.00} \text{ except as shown.}\$

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (WMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Mater Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

			Analyzed by i	USGS												
			Hardness bid - Carrarm as CaCO ₃ ity MPN/mi Tatol N.C. nppm	Maximum 7,000.+	Minimum 0.62	Median 6.2										
		Tur	- piq - th - th - th - th	-3			15	2	15	ന	CI	T)	380	žu .	N	
			000 S	5			٥	0	8	0	0	0	0	-		
			l' I	55			52	30	090	23	57	56	32	**	77	
		Per	sod -	53			56	2¢	8	31	3.0	3,5	37	હે	25	
		Tota!	solids in ppm					96.4				121 ^f 1096				
			Other constituents					PO ₄ 0.15				PO1, U-15				
			Silica (SiO ₂)					প্র				줘				
		lion	Boron Silica (B) (SiO ₂)	0.0			=	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0	
(1)	millian	per million	Fluo- ride (F)					0.00				100				
PIT RIVER NEAR MONTGOMERY CREEK (STA. 17)	l äs l	equivalents p	trote (NO ₃)					00.0				0.8				
T CREEL		equi	Chlo- ride (CI)	3.3			6.0	3.6	3.0	5.2	3.4	6.0	3.2	0.13	0.00	
VTGOMER		=	Sul - fote (SO ₄)					0.0				0.10				
NEAR MOD		COMSTITUENTS	Bicar- bonate (HCO ₃)	88			1.18	72	1.51	1.38	1.11	89	52	1.48	1.11	
T RIVER	Minarol Con		Carbon- ote (CO ₃)	0.00			0.00	00.00	0.00	0.00	0.00	000	000	000	000	
P	1	Ē	Patas- sium (K)					0.05				2.1				
			Sodium (No)	10			8.4	0.30	12 0.52	0.48	11 0.48	12 0.52	8.6	0.11	0.30	
			Magne- sum (Mg)					5.1				6.4				
			Calcium (Ca)	1.10			1.04°	0.55	1.20c	1.05°	1.14°	13	0.64°	1.10	0.489°c	
			рн а/ъ	2.5			8.1	7.7	യയ	88.1	0.00	7.6	7.2	25.	4.0	
		Specific	(micromhos at 25°C)	153			128	126	160	154	149	165	98	152	118	
				76			35	91	96	700	102	90	100	97	7.6	
			Oissalved oxygen ppm %So	11.5			10.4	9.5	0.6	7.6	4.6	8.7	11.5	11.3	1:11	
			. 1	91	SAMPLED	SAMPLED	23	57	99	99	89	63	64	87	6	
			Discharge Temp in cfs in 0F	3,320	NOT SAME	NOT SAME	5,040	2,070	4,230	3,080	3,020	3,050	17,200	3,950	8,970	
			bate some time sompled P.S.T.	1/9	2/13	3/13	1,/1C 0930	5/2	6/11	7/3 0940	8/2	9/17 0920	10/16	11/19	12/17	

b Labaratory pH

c Sum of calcium and magnesium in epm.

c. Sum of calcium and magnesium in epin. del., capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr³6), reported here as $\frac{0.0}{0.00}$ except as shown. d. Iran (Fe), aluminum (Al), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr³⁶5), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from canductivity vs TDS curves.

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Divisian of Laborataries, ar United States Public Health Service (USPHS); San Bernardina County Flood in Mineral analyses made by United States Geological Survey, Quality of Water Branch (USCS); United States Department of Mater and Power (LADMP); City of Las Angeles, Department of Public Health (LADPH); City of Las Angeles, Department of Branch Cantrol of Southern California Campana (AMD); Las Angeles Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

PIT RIVER, SOUTH FORK NEAR LIKELY (SIA, 18a)

Column C																 	
Contact of the cont			Andiyzed by i	nsgs													
The contract of the contract			Caliform MPN/ml	Meximum 2,400.	Minimum 1.3	Median 62.											
The contract of the contract		, ,	- bid - bid - bid - bid				13	ω	07	2	10	50	ω	c)	7		
The contract of the contract			OCO3 N.C. PPM			0	0	0	0					0			
Column C			1.	43	50	53	36	35	777	50	52	53	50	39	39		
1			eod -	50	24	25	53		- 55	25	29		21	24	83		
1		Total	dis- solved solids in ppm					745				116 ^f 138 ^g					
Column C			Other constituents					PO ₁ 0.15				PO ₁₁ 0.40			-		
Column C			Silica (SiO ₂)					88				돲					
12 12 12 13 13 13 14 14 15 14 15 14 15 15	Ì	Hon	Boron (B)	0:0	0.0	0:1	0.1	0:0	0:0	0.0	0.0	0:0	0:0	0.0	0		
1.5 1.5	7007	191 H	Fluo- ride (F)					0.0				0.01					
1.5 1.5	. NTC) 1	orrs per olents p						0.0				70.0					
12 32 12 14 6 6 6 6 6 7 6 7 6 7 7	1	equiv	Chlo- ride (CI)	0.00	1.8	0.00	0.0	0.0	0.04	1.8	0.01	2.5 0.07	1.8	0.0	0.0		
12 32 12 14 6 6 6 6 6 7 6 7 6 7 7	The same		Sul - fate (SO ₄)					0.0				5.0					
12 32 12 14 6 6 6 6 6 7 6 7 6 7 7	1 11 1000	stituents	Bicor- bonate (HCO ₃)	1.07	1.05	1.25	54 0.89	51 0.84	1.02	76	1.30	1.41	1.02	1.05	60 0.98		
12 32 12 14 6 6 6 6 6 7 6 7 6 7 7	L VELVIO			9	0.00	0000	00.0	0000	0.00	0000	0000	0000	0000	0000	0000		
12 32 12 4 4 13 13 14 15 14 15 14 15 15 15		Mine	Potos- Sium (X)					2.1				0.10					
12 32 12.4 0.5501 0.4501 0.			Sodium (No)	4.8	7.1	8.3	6.0	-	5.7	7.9	9.9		6.1	5.7	5.1	 	
12 12 12 13 14 14 14 14 14 14 14			Magne- srum (Mg)													 	
Discharge Temp Dissolved Conductations Discharge Temp Dissolved Conductations Discharge Discha			Calcium (Co)	30.3	1.00°	190	0.72°	8.4	3.88°c	1.00°	1.04°	14	1.000	262.0	0.77°	 -	
Discharge Temp Dissolved orsgan or MS-Solved			B B		7.0	7.7	0 0	8.1	8 7	8.0	8 8	8 8 7	7.5	u vai	200		
Discharge Temp Dissolved orsgan or MS-Solved		Specific	conductance micromhos at 25°C)	100	135	138	36	88	105	132	1777	155	11.7	102	101		
Discharge Temp Disso IIC 38 12.4 8.0 43 10.7 30 33 12.0 20 59 8.6 89 61 8.4 134 57 8.7 51 56 8.8 52 68 8.8 70 42 11.2 40 39 11.6 70 42 10.9			0 1	92	98	83	48	85	874	778	77	92	68	88	87		
Discharge Temp in cfs in of in cfs in of in of in of in of in of in cfs in of			Disso	12.4	10.7	12.0	9.0	4.8	8.7	8.8	5.7	8.5	7.	11.6	10.9		
			Temp in OF	32		33	59	61	57	95	70	69					
			Dischorge in cfs	12	U.5	30	200	89	134	51	102	32	59	0.47	70		
			ond time sompled P.S.T	1/2	2/13	3/13	4/10	5/2 1500	6/14	7/12	8/15	9/18 1135	10/17 0920	11/20	12/17		

Derived from conductivity vs TDS curves.

b Loborotory pH.

c Sum of calcium and magnesium in epm.

Count for unactionism may be served (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr[±]⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of analyzed constituents.

Grovimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Branch (USBR); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Surher, City of Long Beach, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

ANALYSES OF SURFACE WATER CENTRAL VALLEY REGION (NO. 5) PUTAH CREEK NEAR WINTERS (STA. 81) TABLE B-14

		Anolyzed by I			USGS														
-	4	bid - Coliform			Median 21.	2400. Mioimum													
-	٥	- to - co			<u>Σ () 3</u>	m m	9		c _V	-	N		5	_	cv .	-			
		Hordness to	D E G		6	Φ	30	9	N	20	4	C)	0	0	0	0			
		Hord Can	Total		168	163	186	164	158	157	155	156	154	157	162	162			
	Per	e od -			21	21	20	176	12	п	21	12	21	17	12	14			
	Total	solids	mdd u	•	208	202	299°	207°	187 [£]	190°	191°	191 ^e	184 T	193°	203	210			
		Other continuents							ABS 0.0; POL 0.00				Ae 0.00; ABS 0.0; Pol, 0.00						
		Silico	(2 0(S)						21				킈						
	lion	Boron	<u>@</u>		0.2	0.2	0.5	0:1	0:1	000	0.5	000	0.2	0:0	0.2	0.2			
millior	per million	F luo-	(E)						0.1				0.1						
ports per million	1 1		(NO ₃)						0.00				0.7					-	
å	equivolents	Chlo-	(5)		8.5	9.6	35	7.0	5.5	6.5	5.5	7.8	6.0	6.6	7.5	0.37			
	Ē	Sul -	(\$0\$)						16				17						
	constituents	Bicar-	(HCO ₃)		3. E	180	3.11	3.16	173 2.84	171	176 2.88	3.08	3.08	188 3.08	1.82	3.25			
1			(00)		0.00	4 0.13	0.00	00.00	8	7 0.23	4 0.13	0.00	0.00	20.07	8	0.00			
;	Mineral	Polos-	E(X)						1.9				1.5						
		Sodium	(0 N)		1100	9.9	36	12 0.52	10 0.44	8.7	9.6	9.7	9.6	8.7	10 0.44	0.52			
		Mogne-	(Mg)						26				25						
		olesum	(00)		3.36	3.26	3.72°	3.28°	1.00	3.13°	3.10	3.12°	1.00	3.14c	3.24c	3.240			
	ed :	F			8.2	7.7	88	8.5	8.6	8.5	8.3	88	8.1	7.5	7.8	7.8			
	Specific	conductance (micromhoe	01 25 C		346	335	9611	344	328	316	318	317	314	320	337	349			
			%Sat		101	111	108	117	115	1115	101	104	107	96	84	93			
		Discolved osygen	mad		11.0	12.6	9.11	12.3	15.1	11.9	11.0	11.3	11.1	10.6	9.3	10.4			
		Temp in oF	1		53	20	75	96	95	57	53	53	57	52	52	50	-		
		Discharge Temp in cfe in oF			76	29	33	165	313	157	124	157	319	108	7.	7,7			
		Dote ond time	P, S.T.	1962	1/9	2/7	3/8 1155	1,19	5/3	6/6	7/5 0840	8/2 1655	9/4	10/6 0925	11/8	12/5			

b Laboratory pH.

Sum of colcium and magnesium in epm.

Sum of colcium and magnessium in opm.

Iron (Fe), oluminum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chromium (Cr*6), reported here as 0.0 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardina County Flood Contral District (SBCFCD); Metropolitan Water District of Southern Colifornia Department of Water Resources (DWR); as indicated Politic Health (LBDPH), Leity of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratorics, Inc. (TTL); or Colifornia Department of Water Resources (DWR); as indicated h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service. Gravimetric determination

CENTRAL VALLEY REGION (NO. 5)

		7	by 1	usgs											
		a Good de	n ppm MPN/mi												
		1 1 1	E dd L	Q	m	15	m	CV						69	100
			SON NE	81	12	37	33	33						64	37
		Horde	oe CoCO ₃ Total N C. ppm ppm	566	136	042	243	243						261	593
Ì		Per	- pos	13	13	12	15	13						15	13
		Total dis-	solids in ppm	-				313 ^f							
			Other constituents			Tot. Alk. 248	Tot. Alk. 258	PO ₁₄ 0.05						Tot. Alk. 258	Tot. Alk. <u>274</u>
			Sinco (SiO ₂)					22							
	_	lion	Boron (B)	0:0	0.0	0:0	0.1	0:1						0.1	0.1
34)	١١١١	per million	Fluo- ride (F)					0.1							
RED BANK CREEK NEAR RED BLUFF (STA. 88d)	m	equivolents	rrote (NO ₃)					4.0							
BLUFF		eduiv	Chlo- ride (CI)	30	0.13	0.10	0.20	16						0.79	0.39
EAR REI	- S		Sul - fate (50 ₄)					4.6 0.96							
CREEK	constituents		Bicor- bonate (HCO ₃)	3.70	2.29	3.93	246	4.20						3.97	261
ED BANK	Mineral con	1	Carbon- ate (CO ₃)	00.00	00.0	0.13	0.20	0000						8	0.23
M.	M		Potos- sium (K)					0.03							
			Sodium (Na)	0.43	0.40	0.05	0.83	17.0						21	18 0.75
			Magne- sum (Mg)					21.72							
			Calcium (Ca)	5.32	2.72	2008.11	\$ 500°	63 3.14						5 .22°c	5.23°
			9H	3.2	7 × 8	8 8	8.1	8.1						7.7. 80 80	2.4
		Specific	(micromhos ot 25°C)	550	590	184	1498	205						559	539
				81	96	8.	93	96						93	102
			e dd	10.0	10.8	0.01	2.	φ						10.3	11.1
		-	E 0	77	20	96	63	89						52	53
			or of s	0.7	†\$†	15 (est.)	(est.)	C)	PONDED	DRY	DRX	DRY	PONDED	5	16.9
		Date	sompled P.S.T	1/11 0850	2/14 1130	3/14	4/12	5/17 1000	6/19	7/18	8/21	3/20 1200	10/18	11/28	12/19

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Water and Power (LADWP); City of Los Angeles, Department of Water and Power (LADWP); City of Los Angeles, Department of Water and Power (LADWP); City of Los Angeles, Department of Water Resources (DWR); as indicated.

b Labaratory pH.

c. Sum of coficum and magnesium in epim.

d. Iron (Fe), oluminum (AI), arsenic (As), copper (Cu), lead (Pb), manganese (An), zinc (Zn), and hexavalent chromium (Cr*5), reported here as $\frac{0.0}{0.00}$ except as shown. c Sum of calcium and magnesium in epm.

Determined by addition of analyzed constituents Derived from canductivity vs TDS curves

Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Divisian of Laboratories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5) ROCK SLOUGH NEAR KNIGHTSEN (STA. 109)

	Analyzed by i		USGS													
	Hordness bid Coliform os CoCO ₃ lity MPN/mi		Median 62.	> 7000. Minimum	L3.											
	1 P P P P P P P P P P P P P P P P P P P		35	04	517	25	99	140	9	200	25	15	10	0,		
	N COS		155	198	92	14.5	7	9	4	H	15	00	33	52		
	Hordness os CoCO ₃ Total N.C. ppm ppm		245	302	148	116	56	38	69	75	88	88	127	167		
	TEN PEN		41	77	51	64	34	37	36	54	54	52	64	15	 	
Toto!	dis- solids in ppm		485°	627 ^e	366°	277°	114	129 ^e	118°	194°	231 ^f 229 ^g	216	302°	427°		
	Other constituents						PO ₄ 0.15				PO4 0.15					
١.	(S,O ₂)	_					16				71				 	
ion	Boran (B)		0:3	0.5	0.5	0.3	0:0	0:0	0.1	0:0	[:]	01	0.2	0.4		
E	3 90						0.2				0.2					
ports per							0.00				0.0					
e ouiv	Chlo- ride (CI)		3.05	182	84	69	18 0.51	0.59	18 0.51	1.44	69 1.95	1.55	76	3.27		
	Sut - fote (SO ₄)						17 0.35				25					
constituents	Bicar - bonate (HCO ₃)		110	2.08	388	86	0.90	73	74	1.28	89	1:6:1	115	140 2.29		
Mineral con	Carbon- ote (CO ₃)		0.00	00.0	0.00	0.00	0.00	0.00	0 0	0.00	0.00	0.0	0.0	0.0		
2	Potos- Sium (X)						1.5				2.4					
	Sodium (No)		3.39	110	3.04	51 2.22	14 0.61	0.78	17 0.74	41 1.78	2.18	1.91	2.48	3.48		
	Mogne- sium (Mg)						4.5				16.0					
	Calcium (Ca)		1.90°	6.04°	2.96°	2.32°	15	1.32°	1.300	1.51	17 0.85	1.76°	2.540	3.340		
	I,O		7.1	7.7	7.2	7.3	7.5	7.6	7.4	7.5	7:4-	7.8	8.0	7.3		
1	conductonce (micromhos		844	1090	989	1482	184	55₫	206	337	601	375	525	743		
	1 5		75	82	78	85	74	42	986	986	72	22	7/4	19		
	Oisso oxy ppm		8.7	9.0	9.6	7.8	6.7	6.9	6.9	7.4	6.3	6.7	7.3	7.5		
	Tem in oF		φ ₄	52	52	19	69	71	81	74	72	99	19	51		
	Dischorge Temp	Tidel														
	ond time sompled P.S.T.	1962	1/11	2/15 1020	3/8 1125	10,00	5/8 1035	6/6 1015	7/10	8/7 1020	9/6	10/4 0825	11/13	12/10		

b Loborotory pH

c Sum of colcium and magnesium in epm.

c. Sum of calctum and magnessum in Epm.

d. Iron (Fe), aluminum (A1), arsanic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported hare as $\frac{0.0}{0.00}$ except as shawn.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination.

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Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamption (USBR); United States Geological Survey, Quality of Water Scources (DWR); City of Los Angeles, Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT BEND (STA. 12c)

4							4	4								 	
			Analyzed by i	USGE													
		-	s bid - Coliform	Maximum 2,100.	Minimum 1.3	Median 62.											
		Tur-	- bid yti ngq n	n	800	70	10	7	್ಷ	m	N	15	4	10	15		
			SO Za	0	m	Φ	0	0	0	0	0	0	0	0	0		
				56	775	52	51	67	Ğ.	77	777	117	94	Lη	δη		
		Per-	sod -	23	778	22	S.	22	22	57	25	22	77	22	56		
		Total dis-	solved solids in ppm					95f				94f					
			Other constituents					PO _{4 0.00} ABS 0.00				PO ₄ 0.00 As 0.01 ABS 0.0					
		1	(SiO ₂)					81				24					
	c	Hion	Baran (B)	0.0	0.0	0.0	िं	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0:0		
	millio	per million	Fluo- ride (F)					0.01				0.00					
A. 12c)	D)	equivolents	rrate (NO ₃)					0.0				0.0					
SACRAMENTO RIVER AT BEND (STA. 12c)		Ainba	Chio- ride (CI)	5.6 5.16	0.00	0.11	5.2 0.15	4.4	0.07	0.11	0.07	3.0	0.12	3.0	3.6		
ER AT	E S	- 1	Sul - fate (SQ4)					10				3.8					
ANTO HIA	constituents		Bicar- bonate (HCO ₃)	72	62.0	54 0.83	62 1.02	96.9	63	96.0	1.02	62	63 1.03	66 1.08	70		
SACHAM	Mineral con		Carbon- ate (CO ₃)	0000	00.0	0.00	0.0 Br.0	000	0.00	0.0	00.0	00.0	00.0	000	00.00		
	ž		Potas- Sium (K)					1.3				1.0					
			Sodium (Na)	14.0 14.0	6.1	6.6	0.30	0.28	6.1	6.4	62.0	5.8	6.7	0.50	8.0		
			Mogne- Sium (Mg)					4.6				0.33					
			Calcium (Ca)	1.12°	0.846	1.04c	1.02°	0.00	96.0	0.88°	0.88°	11 0.55	0.920	0.946	0.380		
			B/b		7-4	7.2	7 0.0	m t-t-	7.4	4.5.	7.6	8.0	7.7	7.5	8		
		Specific	conductonce (micramhas at 25°C)	145	1	135	128	123	117	115	77	111	11.5	121	131		
			1 5 1	87	75	95	66	86	86	76	102	105	107	100	96		
		Dissalved	Oxy Oxy Dpm	10.1	10.5	0.11	10.3	10.6	10.7	10.6	11.0	0.11	11.11	10.5	10.4		
		Temp	10 P	87	20	on 7	57	54	53	23	75	95	53	92	23		
		Decharae	Dischorge lemp	_ #E*#	13,400	11,200	5,320	9,210	9,090	10,400	10,700	7,110	6,440	7,010	9,430		
		Date	ond time sampled P.S.T	1/12 1010	2/12	3/14	4/11 1050	5/3 1020	6/6	7/2	8/1 1510	9/11	10/1	11/1	12/7		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d nor (Et.) aluminum (A.), response (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Labaratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Duality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Health (LADPHS); San Bernardino Country Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD), Las Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); Health (LADPH); Terminal Testing Laborataries, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

AMENDE DIVIDE AM DENTE COMMENDE

r								_	_						_		
		Anolyzad by i	USGS														
		bud Coliform															
		- bid - ty - ga															
		SCO3 SCO3 PPA	0	0	0	0		0	0	0	0	0	0	D	0	0	0
-		1 1	26		275	296	38	50	5 7	53	52	52	87	2 tr	647	50	17
-	ć	Bod -	770	77.0	77	23	22	22	ત્ર	23	23	22	57	57	33	8	25
	Total	golved solved solids in ppm	105f 106g	28f	1990 1990	102f 105E	70f 886	92 ^f 93 ^g	86f 858	981	98£	93f 998	93.f	93.	121 328	92f 908	90f 89k
		Other constituents	Fe 0.04 Zn 0.02	Fe 0.06 Zn 0.00 Cu 0.01	Fe 0.08 Zn 0.00	Fe 0.05 Zn 0.11	Fe 0.19 Zn 0.04 Cu 0.00	Fe 0.18 Zn 0.08	Fe 0.14 Zn 0.13	Fe 0.15 Za 5.13	Fe 0.07 Zn 0.13	Fe 0.04 Zn 0.07	Fe 0.03 Zn 0.00	Fe 0.08 Zn 0.04	Fe 0.04 Zn 0.12	Fe 0.03 Zn 0.15	Fe 0.04 Zn 0.1c
		Silico (SiO ₂)	28	ଥା	98	26	118	24	22	73	72	श	25	52	72	23	72
	million	6_	0.0	0:0	0:0	0.1	; 	0.1	릥	ु	0.0	0.0	0.0	0.0	0.0	0.0	0
- 1	E 2	1 304	0.1	0.01	0.2	0.0	0.0	0.01	0.0	0.2	0.2	0.1	0.2	10.	0.2	0.01	0.01
A 12c)	aquivolents	1 00 1	0.6 0.0I	0.0	0.0	0.01	10.0	0.7	0.4	0.01	0.0 0.01	0.2	0.2	00.0	1.1	0.8	0.01
END (ST	aguiv	Chlo- ride (CI)	4.4	0.11	4.3	4.8	8.00	3.9	3.0	C.11:	4.2	3.8	080	3.0	1.2	4.0	3.5
ER AT E	<u>=</u>	Sul - fote (SO ₄)	6.8	0.6 7.14	8.4	9.0	0.21	9.0	9:00 6:10	0.43	0.21	0.19	8.0	9.0	0.15	7.0	7.0
SACRAMENTO RIVER AT BEND (STA. 12c	constituents	Bicor- bonate (HCO ₃)	74	70	1:11	1.11	41 0.07	1.00	57	1.07	1.05	1.07	63	23	1.02	1.15	96.
SACRAME	Mineral cor	Carbon- ate (CO ₃)	00.00	9010	Ct 1.	00.0	00.0	00.0	00.00	J. Carl	00.00	00.0	0000	00.00	00.0	00.0	00.0
	Σ	Potos- sum (X)	1.7	1.04	- 2 · 4 · 1	7.00	1.1 0.03	1.1	1.1	1.1	1.6	1.1	1.1	1.2	1.1	1.3	1.3
		Sodium (Na)	8.3	2.0.5	7:00	0.35	0.21	0.0	8.00	7.5	7.4	0.30	7.3	1.30	0.30	7.0	7.3
		Mogne- Sium (Mg)	5.6	5.6 0.46	7:5	2015	0.34	5.5	0.40	5.0	4-3	0.9	3.8	4.1	7-7	2.0	10.39 10.39
		Calcium (Ca)	113	12	115	1.	8.7	111	100	3/2	14	11.	13	10.0	11 0.55	12	0.55
		QHd		7.8	10	17)	7.0	7.4	7.5			7.8	-		1	7.4	7.6
	Specific	Ø 60 ~	1148	777	141	143	i i	128	15	13 ,	140	133	127	123	121	122	121
		Disedived co															
-		Tensorio PF															
		Dischorge Temp						CC								4,4	
		Dote and time sampled P.S.T	1/1-10	/ -1	1 2/2	đ Gu	2/ 1-16	2/17-28	3/ - 0	2- nj.	21-4	7	4/11-2	/ 1-3	1-1	- L	(21-31
									-247								

c. Sum of calcium and magnesium in cpm. b Laboratary pH.

c. Sum of conclum and magnessium in Epin.

d. Iron (F.D.), aluminum (AI), arsenic (AS), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr¹⁰), reported here as 0.0 except as shown.

c Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Cannal analyses made by United States Geological Survey, Quality of Water Branch (USCS); United States Department of the Interior, Bureau of Reclamation (USBR), United States Bearing (USPHS); Son Bernardino County Flood Cannal District (SBCFCD), Metropolitan Water District of Southern California (WMD); Los Angeles Department of Water and Power (LADMP); City of Las Angeles, Department of Public Health (LADPH); City of Las Beach, Department of Water Resources (DWR); as Indicated.

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT BEND (STA. 12c continu

		Anolyzed by i	USGS													
		Tur- bid-Coliformh ity MPN/ml														
		- bid - bid - kga n														
		OCO3 N C		0	0	0	0	0	0	0	0	0	0	0	0	
-			77	777 9	9†7	24	917	L+	41	54	7	†††	77	4	र् _य य	
	-	Per Cent S sod -	42	1 25 25	f 26	.f. 26	25	4 B	f 25	E2 53	E 23	f 24	25	6 H	8 F	
-	Total	salved solids in ppm	86f 93&	85f 83&	94f 1018	95 ^f 928	93 [‡]	899	94 ^f 92 ^g	95°E	92 ^f 89 ^g	871 816	88 f	87f 798	87f 898	
		Other constituents	Fe 0.00 Zn 0.10 Cu 0.02	Fe 0.00 Zn 0.10	Fe 0.01 Zn 0.08	Fe 0.01 Zn 0.03	Fe 0.03 Zn 0.02 Cu 0.01	Fe 0.01 Zn 0.03	Fe 0.04 Zn 0.03	Fe 0.02 Zn 0.03	Fe 0.02 Zn 0.00 Cu 0.01	Fe 0.01 Zn 0.06 Cu 0.02	Fe 0.01 Zn 0.10 Cu 0.02	Fe 0.01 Zn 0.08	Cu 0.03 Zn 0.12	
		Silica (SiO ₂)	ଅ	23	28	63	27	75	31	띪	31	772	52	21	72	
	million	Boron (B)	0.0	0.0	0.0	0.0	0:0	0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	
panu)	per m	5.5F	0.00	0.00	0.0	0.01	000	0.0	0.0	0.00	0.0	0.3	0.0	0.01	0.01	
cconti	equivolents per million	rrate (NO ₃)	0.8	0.6	0.02	1.3	0.05	0.05	1.8	1.6	1.9	1.3	0.0	1.0	0.02	
STA PE	Viole	Chlo- ride (CI)	3.2	2.8	3.0	3.2	0.11	0.12	2.8	2.7	2.6	2.2	2.2	2.4 0.07	0.03	
ON THE	e E	Suf - fate (SO ₄)	5.2	5.8	0.4	7. 4	0.10	0.0	3.8	5.0	3.6	4.6	5.0	5.0	3.6	
IVER AT	cometituents	Bicor- bonate (HCO ₃)	62 1.02	61	1.08	68	1.07	1.07	63	1.05	1.02	64	64 1.05	1.05	61 1.00	
SAUGAMENTO KIVER AT BEND (STA. 12c continued	Mineral con	Carbon- ate (CO ₃)	0000	0.00	00.00	0000	00:00	00.00	00.0	00.0	00.0	0.00	0.00	00.00	00.00	
NO.	Min	Potas- sium (K)	0.03	0.0	8.0	0.0	0.03	0.03	0.03	0.03	0.03	1.1	0.03	0.03	0.03	
		Sodium (No)	6.6	6.8	7.7	7.7	0.32	0.31	0.31	6.4	6.2	6.7	7.0	6.3	6.3 0.27	
		Mogne- Stum (Mg)	3.4	0.33	3.9	4.6	0.37	0.39	0.33	07.0	0.35	4.6 0.38	3.4	3.3	0.39	
		Calcium (Ca)	0.60	0.55	0.60	11 0.55	0.55	0.55	0.55	10	0.50	0.50	0.60	0.60	10	
		4	7.5	7:7	7.8	7.6	7.5	7.6	7.5	7.6	7.6	75	7.8	7.6	킨	
	Specific	conductance (micromhos	121	117	122	123	118	117	117	116	114	115	116	114	116	
		Dissolved oxygen ppm %Sol														
		E E														
		Discharge Temp														
		Date and time sampled P.S.T.	6/1-10	6/11-20	6/21-30	7/1-11	7/12-21	7/22-31	8/1-10	8/11-20	8/21-31	9/1-10	9/11-20	9/21-30	10/1-10	

b Lobaratory pH o Freld pH.

c Sum of colcium and magnesium in epm.

Countries constant and secure of the second
Determined by addition of analyzed constituents.

Derived from conductivity vs TDS curves

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Lobaratories, or United States Public Health Service.

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2

ANALYSES OF SURFACE WATER TABLE B-14

CENTRAL VALLEY REGION (NO. 5)

RAMENTO RIVER AT BEND (STA. 12.

		Analyzed by i	USGS							
		Hordness bid - Coliform os CoCOs if MPN/ml Total N.C. nppm								
	- Lo	- bid ity mpga								
		OCO S N C PPT	-7	0	0	0	0	o	0	•
		Hordr os Co Total ppm	-# 	147	50	87	-77 CO	59	4	25
	0.	sod -	22	22	\$ t	77	à	25	78	ನೆ
	Totol	solved salids in ppm	87£	12t	98f 102E	36£ 968	1,04.6 1,04.6	98f 986	878	1018
		Other canstituents	Fe 0.16 Zn 0.03	Fe 0.09 Zn 0.06	Fe 0.0c. Zn 0.11	Fe 0.08 Zn 0.10 Cu 0.01	Fe 0.12 Zn 0.09 Cu <u>0.01</u>	Fe 0.00 Zn 0.11	Fe 0.04 Zn 0.04 C1 0.02	Cu 0.00 Zn 0.09
		Silica (SiO2)	23	98	56	92	921	53	<u>ଅ</u>	8
	ion	Boron S (B) (9	0:0	0.0	0.1	0.0	0.7	1.1	0.1	
led /	per million	Fluo- ride (F)	0.2	0.0	0.1	0.0	70.0	0.4	0.2	0.01
contin	5 i	rrate (NO ₅)	3.1	0.05	1.4	1.2	1.3	1.2	1.5	0.08
TA TEC	equivalents	Chlo- ride (CI)	3.9	2.7	4.2	3.4	4.8	4.5	3.6	4. 0 0.18
DEND S	Ē	Sul - fate (SO ₄)	11	6.4	6.0	6.0	5.0	6.8	5.2	0.14
VER AT	constituents	Bicar- banate (HCO _S)	48 0.79	64	69	1.08	01.1	01.10	0.78	12 1.15
SACRAMENTO RIVER AT BEND (STA. 120 CONTINUED		Corban- ate (CO _S)	00.0	0.00	0.00	00.00	0.00	0.00	00.00	000 010
SACRA	Mineral	Potas- C	1.5	0.03	2.0	2.5	0.0 0.0	10.0	C 0.0	₩
		Sodium (Na)	5.8	6.5	7.6	7.3	0.33	3.34	6.6	0.33
		Magne- sium (Mg)	4.4	0.39	5.5	5.0	5.6	0.35	3.9	0.43
		Colcium (Ca)	10	111	0.55	111	10	13	11 0.55	6.0 0.00
Ì		e H	7.2	7.2	7.7	7.3	7.4	7.5	7.4	7.8
	Specific	conductance (micromhos at 25°C)	112	119	127	123	128	128	111	8887
		Ossalved oxygen ppm %Sat								
		Temp in oF								
		Discharge Temp in cfs in of								
		Date ond time sompled P.S.T.	. 10/11-14	10/15-31	11/1-10	11/11-20	11/21-30	12/1-14	12/15-13	12/2 -31

_^!=

b Labaratory pH.

Sum of calcium and magnesium in epm.

c. Sum of calcium and magnesium in opm. d. Iron (Fe), oluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr⁺⁵), reported here as 0.0 except as shawn.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination

h Annual median and ronge, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Tity of Long Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT BOYERS BEND (STA. 14c)

	Analyzed by i	nsgs													
	MPN/ml														
	pid u														
	N C.	0	0	0	0	m	2	0	٦	CJ	0	0	0		
		69	73	58	69	75	57	52	19	72	1 79	62	58		
c	Sod -	57	777	7.7.7	54	50	22	77.2	23	22	21	21	23		
Tatal	solved solved in ppm	123 ^f 126 ^g	130 ^f 131 ^g	105 ^f 108 ^g	122 ^f 123 ^g	79f 958	101 ^f 110 ^g	94£	116 ^f 109 ^g	120 ^f 117 ^g	108f 1116	106f 1108	106 ^f 105 ^g		
	Other constituents	Fe 0.03	Fe 0.02	Fe 0.12 Mg 0.15	⊙• ⊙• ⊌ ₄	Fe 0.06	Fe 0.19	Fe 0.18	Fe 0.10	Fe 0.09	Fe 0.02	Fe 0.02	Fe 0.02		
	Silica (SiO ₂)	윘	20	23	63	81	77	23	93	77	25	81	7.2		
lion Millian) 5 (0.1	0.0	0.0	0.0	0.1	0.0	0.5	0.1	0.1	0.0	0.0	0.0		
per mil	- 90	0.01	0.0	0.01	0.0	0.0	0.2	0.02	0.02	0.0	0.0	0.0	0.0		
ě		0.0	0.05	0.0	4.0	0.0	0.5	0.0	0.01	0.01	0000	000	0.00		
ports p	Chlo- ride (CI)	6.4	0.22	6.0	0.22	3.8	5.5	0.13	5.5	5.8	5.0	5.2	4.8 0.14		
<u> </u>	Sul - fote (SO ₄)	6.4	6.4	0.17	0.19	8.0	0.21	0.21	0.23	0.27	0.21	9.0	9.0		
constituents	Bicar- bonate (HCO ₃) (21.49	1.59	73	1.39	47 0.77 0	1.10	1.03	1.33	85 1.39 0	78 1.28	76 1.25	74 2		
	Carbon Bi														
Mineral	0	0°00 54	0.00	0.00	00.00	0 0 00	0.00	00.00	00.00	0 0.00	00.00	3	3		-
	Potas-	1.7	1.5	1.2	1.1	2 0.03	3.0.0	3 0.03	0.03	1.3	1.1	1.2	5 0.03		
	Sodium (Na)	3 0.44	0.48	0.35	0.44	5.0	0.33	0.33	9.1	9.6	7.8	7.8	8.1		
	Magne- Sium (Mg)	0.63	0.00	6.3	7.5	4.3	6.0	2.4	0.59	7.8	7.1	6.6	5.6		
	Calcium (Ca)	15	16	13	0.75	9.9	13	0.60	0.75	0.80	14	0.70	0.70		
	P.F.	7.5	7-7	7.5	7.8	7.6	7.6	7-4	7.7	7.8	7.6	8.0	7.6		
ri filosopy	conductonce (micramhas of 25°C)	183	191	153	179	108	146	136	172	181	159	155	149		
	Dissolved oxygen ppm %Sat														
	Dischorge Temp														
		0	50	31		50	28	0	50	31	-	00	30		
	ond time sampled P.S.T.	1/1-10	1/11-20	1/21-31	2/1-9	2/10-20	2/21-28	3/1-10	3/11-20	3/21-31	4/1-10	07-11/7	14/21-30		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

Countries concrow and account of the second (Pa), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves.

g Gravimetric determination.

h Annual median and range, respectively. Calculoted from analyses of duplicate manthly samples made by Califarnia Department of Public Health, Division of Labaratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States District of Southern California (WWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated.

TABLE P-14

CENTRAL VALLEY REGION (NO. 5)

		Anolyzad by i	USGS														
		bid - Coliform							-		····						
		- bid - bid - bid - bid															
Ì		Hordness as CaCO ₃	Э	0	Э	0	0	0	٠,	7	Э	P	-	Э			
			95	09	61	57	52	90	27	52	64	877	5	23			
		Sod -	54	24	57	77	72	77	56	77	25	25	24	23			
	ļ	dts- solved solids in ppm	104 ^f 100 ^g	$\frac{106^{\mathrm{f}}}{103^{\mathrm{g}}}$	108 ^f 107 ^E	106 ^f 116 ^g	98f 916	96 ^f 102 ^g	${101}^{\rm f}$	95°E	94t	$\frac{101}{101^6}$	104f	102 ^f 93 ^E			
		Other constituents	Fe 0.01	Fr 0.01	Fe U.Ol	Fe 0.00	Fe 0.00	Fe 0.00	Fe 0.02	Fe 0.03	Fe 0.04	Fe 0.06	Fe 0.03	Fe 0.02			
ed)		Silico (SiO ₂)	481	124	28[981	8	- 156	81	81	%]	22	위 	~~			
untino	uo	no Boron	0	0.0	0:5	0	0:0	0.0	0.0	0.0	0:0	0.1	0:0	0:0			
14c c	Ē	E 50	0.0	0.01	000	0.0	0.0	0.0	0.0	0.1	0 3	000	000	0.0			
D (STA.	parts per	into- Ni- ride trote (CI) (NO ₃)	1.2	0.05	0.05	0.8	0.0	0.8	9.0	0.0	0.6	1.5	0.05	0.03			
ERS BEN		Chlo-	4.3 U.12	5.0	0.13	0.21	0.00	1.0 (1.11	3.8 0.0	3.2	3.4	3.7	3.4	3.0			
AT BOY	. s	Sul - fate (SO ₄)	8.4	8.0	8.0	7.0	7.0	5.0	0.10	5.0	5.0	0.10	0.11	1.1			
RIVER	constituents	Brear- bonate (HCO ₃)	77	1.28	78	74	72	70	74	72	70	70	72	71 1.16			
SACRAMENTO RIVER AT BOYERS BEND (STA. 14c continued)	Mineral cor	Carbon -	0000	0000	000	0000	00.0	000	0000	000	00.0	00.0	0000	00.00			
SA	E	Potas- Sium (K)	1.5	0.03	0.03	1.2	1.2	0.03	0.0	0.03	0.8	0.03	0.03	0.0			
		Sodium (No)	0.37	8.7 0.38	9.3	8.4	0.33	7-4	8.2	0.33	7.8	0.33	0.33	0.31			
		Mogne- srum (Mg)	5.6	6.0	0.51	5.4	0.34	3.6	0.33	5.7	6.38	3.8	5.0	5.1			
		Calcium (Ca)	13 0.05	14 0.70	0.70	0.70	0.70	14 0.70	3.4 C.70	0.55	0.60	0.65	0.00	0.00			
		F	7.7	7.7	7.8	7:4	7.4	7.3	7.7	7.6	7.6	7.5	7.6	177		_	
		Specific conductance pHb (micromhos of 25°C)	146	152	156	147	137	135	136	132	129	131	132	128			
		1.5															
		Dissolved oxygan ppm %Sc															
		T of															
		Dischorge Tamp															
		Date and time sampled P.S.T.	5/1-10	5/11-20	5/21-31	6/1-10	6/11-20	6/21-30	7/1-10	7/11-20	7/21-31	8/1-10	8/11-20	8/21-31			
									-251	-							

Field pH

b Laboratory pH.

c. Sum of colcium and magnesium in epm.

c. Sum of colcium and magnesium in epm. decided (Rb), manganese (Mn), zunc (Zn), and hexavalent chramium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water Control District (SBCFCD); Metropolitan Water Control District (SBCFCD); Metropolitan Water Control Manager (LADMP); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT BOYERS BEND (STA. 14c

Anolyzed by i Hardness bid - Coliformh oe CaCO₃ lity MPN/ml Total N.C. 0 0 0 0 0 CV 9 63 243 9 36 9 55 59 99 62 99 Sod -25 25 77 23 23 22 23 77 2 Total dis-solved solids in ppm 111, 107⁶ 110^f 112^f 111^g 89£ 107^f 1086 104^f 101^f 75£ 122^f 130^g 106f 1108 constituents 0.10 00.0 0.09 90.0 0.03 0.01 0.00 0.00 0.00 0.01 0.0 0.01 Other ڻ [عر 12 Fe Fe () [24 E4 0 (1) [24 (Pa) 크 E4 () [24 E-Silica (SiO₂) 28 56 22 35 27 27 27 83 25 27 28 27 ontinued) Boron (B) 0.0 0.0 0.0 0:1 0.0 0.0 0.0 0:0 0.0 3 히 ports per million Fluo-ride (F) 0.01 0.1 0.02 0.2 0.0 0.0 0.01 0.0 equivolents 0.05 Chlo-ride (CI) 5.3 6.0 0.20 5.3 7 Sul -fate (SO₄) 8.2 0.15 5.4 5.0 5 Mineral constituents Carbon -0.00 000 000 Potas-Sium (K) 5.0 2.05 0.0 Sodium (No) 9.6 8.7 0.00 8.1 5.2 9.6 8.9 Magne-Slum (Ma) 6.7 3.3 3.6 1.0 6.1 7.1 0.49 Calcium (Ca) 0.55 7.7 12 qHd . 7.5 3 7.2 9 7.5 7.7 1 7.6 Specific conductance (micromhas of 25°C) 138 114 143 156 Dissolved ppm |%Sat Discharge Temp Date and time sompled P S.T

o Field pH

b Loboratory pH.

Sum of calctum and magnestum in epm.

Dum of calcitum and magnesium in epin.
Iron (Fe), aluminum (A1), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Ci *5), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves

Gravimetric determination

Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamption (USBR); United States Department of Water Department of Water and Power (LADWP); City of Las Angeles, Department of Water and Power (LADWP); City of Las Angeles, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or Colifornia Department of Water Resources (DWR); as indicated.

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ANALYSES OF SURFACE WATER TABLE B-14

CENTRAL VALLEY REGION (NO. 5)

		Anolyzed by 1	USGS											
		Hordnass bid Coliform Analyzed os CaCO ₃ 1ty MPN/mi by 1	Maximum 7,000.	Minimum 5.	Median 23.									
		Tur- bid- ity in ppm	Q	07	25	00	50	15	9	#	7	06	30	170
		000 S		9	0	Н	0	0	0	0	0	6	0	0
			79	35	19	61	20	51	24	84	64	25	52	80
		sod -	98	22	21	22	17.7	23	25	23	22	21	56	8
	1	dis- solids solids in ppm					921				92f 968			
		Other constituents					PO _{1,} <u>0.10</u>				PO1, 0.05			
	1	Silico (SiO ₂)	01	-1	I	m	8	I	01	01	772			O.
	100	Fluo- Boron	0	0.1	0.1	0.3	0:1	0.1	0.0	0.0	0:0	4.0	0.0	0.0
87a)	ē [0.0 20.0				0.0			
(STA.	ports per million	into- Ni- ride trafs (CI) (NO3)					0.00				0.01			
E CITY	_	Chio-officion	5.5	2.8	5.5	3.8	3.2	3.2	2.8	2.6	3.0	5.0	3.8	0.00
AT BUTT	5	Sut - fote (SO ₄)		7.0			7.0				6.0			
RIVER	constituents	Bicar- bonate (HCO ₃)	82 1.34	36	92	1.20	1.11	1.07	63 1.03	65 1.07	68	58 0.95	73	09.0
SACRAMENTO RIVER AT BUTTE CITY (STA. 87a)	Minerol con	Carbon-	00.00	00.00	00.00	00.00	00.00	00.00	0.00	00.00	00.00	0.00	00.00	00.00
SAC	M	Potos-					1.2				0.0			
		Sodium (No)	10	4.5	8.1	7.8	7.3	6.8	7.1	6.6	6.6	0.30	0.37	0.17
		Mogne- stum (Mg)					0.40				2.2			
		Colcium (Ca)	1.28c	0.72°	1.34c	1.22	12	1.02	0.940	96.0	16 0.80	1.14	1.040	0.56°c
İ		H Q	80.3	7:1	25.5	8.0	7.5	7.7	7.7	7.8	7.8	7.7	7.7	<u></u>
		Specific conductance (micromhos of 25°C)	169	96	165	147	135	125	122	118	126	137	139	62
		1 5	93	93	16	92	98	101	100	103	103	16	98	8
		ء ا ء	10.5	10.4	10.2	8.9	9.T	9.5	9.6	10.0	6.6	9.5	10.6	10.0
		in oF	50	51	51	63	19	99	† ₁₉	63	119	57	54	₹.
		Dischargs Temp	7,810	006'99	13,200	069'9	7,210	7,350	7,830	7,900	6,110	12,200	8,550	24,000
		Oots ond time sompled	1/12 0920	2/15	3/15	4/13	5/7	6/18	7/17	8/20	9/19	10/17	11/27	12/18
									-25	53-				

b Laboratory pH

c. Sum of calcium and magnessum in epm.

c. Sum of colcium and magnesium in epm.

d. Iron (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Un), zinc (Zn), and hexavalent chromium (Cr*6), reported here as 0.0 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Grovimetric determination.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino Country Flood Countrol District (SBCFCD), Metropolitan Water District of Southern California (WMD); Los Angeles, Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR), as indicated. Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

ANALYSES OF SURFACE WATER TABLE B-14

CENTRAL VALLEY REGION (NO. 5)

			Anolyzed by §	USGS											
		£	A A	Þ											
			MPN/mi												
		T or	e e ce	•	0	0	0	m		0	- N	C/J	0	0	<i>.</i> 7
		1	Hordness os CoCO _S Totol N.C. ppm ppm	†9	63	58	61	242	28	52	89	29	59	56	25
-			Sod -	25	24	72	54	000	22	75	22	23	22	24	ຄ
		Total	solved s	116 ^f 117 ^g	115 ^f 116 ^g	106 ^f 107 ^g	111 ^f	76f 938	102 ^f 107 ^g	95 ^f 102 ^g	117 ^f 112 ^g	114f 1086	101 ^f 109 ^g	102f 1048	94.1
			Other constituents	Fe 0.03	Fe 0.03	Fe 0.09	Fe 0.03	Fe 0.17	Fe 0.15	Fe 0.18	Fe 0.15	Fe O.OT	Fe 0.02	Fe 0.00	7e 0.02
-			Silico (SiO ₂)	63	53	72	27	57	72	23	72	77	72	25	ħ27
	c .	million m	Boron (B)	이	0.1	0.1	0:1	0:0	0.1	0.1	0.1	0.1	0:0	0:0	0
37a.)	millio	E E	Fluo- ride (F)	0.01	0.0	0.2	0.1	0.2	0.0	0.00	0.0	0.2	0.2	0.0	0.01
(STA.	parts per million	equivolents	ni- trote (NO ₃)	0.02	0.8	0.05	0.6	0.03	0.5	0.0	0.0	0.0	0.3	0.0	00. 00.
E CLIY	-	e d u 1 v	Chio- ride (CI)	5.5	5.4	5.2	6.8	3.8	5.3	4.2	5.8	5.2	4.3	4.8	0.10
AT BUTT		- 1	Sul - fote (SO ₄)	7.2	7.0	0.19	9.0	8.0	10	8.0	12 0.25	12	7.0	8.0	0.15
RIVER,	constituents		Brcor- bonote (HCO ₃)	84 1.38	84 1.38	72	1.23	74.0	59 1.13	55	91	1.29	73	72	1.11
SACRAMENTO RIVER AT BUTTE CITY (STA. 87a)			Corbon- ofe (CO ₃)	00.00	00.00	00.00	00.00	00.00	0.00	0.00	00.0	00.0	0.00	00.00	00.0
SAC	Mineral		Potos- Srum (K)	1.5	1.3	0.03	1.1	1.2	0.03	1.4	1.4	1.3	0.03	1.1	0.03
			Sodium (on)	9.9	0.40	9.8	9.1	0.25	7.7		0.40	9.1		8.2	4.50 328.0
			Mogne- sium (Mg)	7.1	6.9	6.8	6.3	4.1	6.3	0.39	6.8	0.59	5.8	5.1	0.39
			Colcium (Co)	14	14 0.70	12	14	9.8	13	13	16	0.75	170	0.70	0.65
l			4	7.6	7.6	7.8	7.4	7.1	7.4	7-7	7.7	7.7	7.6	7.6	7-1
		Specific	conductonce (micromhos of 25°C)	170	167	153	162	110	148	139	174	169	152	148	139
			5												
			Disso												
		b	e Temp												
			Dischorge Temp												
		Date	sompled sompled	1/1-10	1/11-19	1/20-31	2/1-9	2/11-19	2/21-28	3/1-10	3/11-22	3/23-30	4/1-10	4/11-20	т√23-30
										~~	di .				

o Field pH.

b Laboratory pH.

c Sum of colcium and magnesium in epm.

c. Sum or catcum and inequesion in the part of the state

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Grovimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

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CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT BUTTE CITY (STA. 878 continued)

		Analyzed by I	USGS				-							
	4	bid - Coliform												
-	Ţ	P C C E	0	0	0	0		0	0	0	0	0	OI.	0
		Hardness as CaCO ₃ Total N.C. ppm ppm	75	55	52	52	20	51	17	611	84	24	66	0,0
-		sod - Por	†z	23	72	- †2	†Z	23	25	23	25	25	14	772
-	ptal	solved solids in ppm	996	100f 998	97 ^f 928		95 ^f 91 ^g	97f 978			95° 888	266 266	150f	103 ^f
-	F.												П	77
		Other constituents	Fe 0.01	Fe 0.01	Fe 0.01	Fe 0.00	Fe 0.00	Fe 0.00	Fe 0.01	Fe 0.03	Fe 0.04	Fe 0.02	Fe 0.04	Fe 0.02
		(SiO ₂)	22	23	24	25	25	92	25	92	92	씼	엤	M
in Tunes	million	Boran (B)	0.0	01	ं।	0	0.0	0.0	0.1	0:1	0	0:0	0:1	0.0
o alc	Der 1	Fluo- ride (F)	000	0.01	0.1	0.0	0.01	0.2	0.0	0.01	0.0	0.0	0.0	000
Corre of million	equivalents	rote (NO ₃)	1.0	0.7	0.6	0.05	0.5	0.8	1.1	0.0	0.3	1.4	1.6	0.02
CTLI	equiv	Chlo-	4.2	0.11	3.7	0.13	4.4	0.11	3.4	0.11	3.3	3.3	3.6	3.0 80.0
T POLICE	č	Sul - fate (SO ₄)	7.4	7.6	7.0	7.0	5.0	7.0	5.2	5.0	6.8	5.2	28	0.12
SHOWMAN ALYEN AL BOLLE CLIL (SLA . O'R CONTINGED)	constituents	Bicar- bonate (HCO ₃)	1.13	71	70	1.08	1:11	1.08	1.11	1.11	1.11	1.11	1.54	1.15
CT MISTA	1	Carbon-E	0.00	00.00	0.00	00.00	00.0	00.00	00.0	00.00	00.00	00.00	00.00	0000
DHC	Mineral	Potas- Co	7.7	1.4	7.0	0.03	1.3	0.03	0.03	0.03	0.03	0.03	0.03	0.03
		Sodium P(8.2	7.8	7.9	7.7	7.3	7.1 0.31 0	7.6	7.0	0.33	7.7 0.33	7.6	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		Mogne-Some (PM)	5.8	6.1 7	0.39	0.39	3.0	0.37	0.39	0.38 0	3.8 7	0.39 I	1.28 0	0.35 0
		Calcium Mo (Ca)	0.60	0.60	13 4	13 4	0.75	13 4	111 4	0.60	13 3	11 4	14 0.70	0.05
-		9 9	21.0 21.0	7.2 12	7.5	7-7	1.0 21.0	1.5 E	110	7.5	7.8	77.7	7.5	91
-		nahos So C)		139 I	137 1	133 I	128 I	128 I	128 1	127 I	128 I	126 I	Z Z	130
-		(micrat	137	it.	7	7	15	12	7	7	מ	7	Č.	ਜ
		Dissolved oxygen ppm %Sot												
-														
		Dischorge Temp in cfs in oF												
		Date and time sampled P.S.T.	5/1-10	5/11-20	5/23-31	6/1-10	6/11-20	6/21-30	7/1-10	7/11-20	7/23-31	8/1-13	8/14-15	8/16-31

b Labaratary pH.

c Sum of calcium and magnessum in epm.

c. Sum of calcium and magnessium in epm.

d. Iron (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{*S}), reparted here as 0.0 except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Grovimetric determination.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health (LADPH); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California Obsartment of Water Resources (DWR); as indicated.
Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5)

Analyzed by i Tur-bid - Conformh ify MPN/mi Hordness de CaCO₃ 0 0 0 N E 0 0 0 \sim CU 0 Totol 52 42 52 53 53 57 69 57 Sod 25 22 22 24 57 24 54 25 22 21 23 fatal dis-solved solids in ppm 104 f 97f 968 97^f 93^g 84 f 888 91.f 928 99°F 30 FB 101^f 96f 92E 106^f Other constituents 0.00 0.10 0.00 0.00 0.00 00.0 0.01 0.07 0.03 0.07 0.00 0.05 EX. E. E. Fe F 0 0 0 E E E E E G e Fel SHICO (SiO₂) 23 88 73 92 22 92 8 98 28 57 77 27 SACRAMENTO RIVER AT BUITE CITY (STA. 878 continued) Boron (B) 0 0.0 0:1 0.1 0.0 0.0 0.1 0:1 0.1 0:0 0.0 0:1 ports per million Fluo-0.00 0.3 4.0 0.2 0.01 000 per equivolents frate (NO3) 1.2 Chlo-ride (CI) 4.2 4.2 Sul -fote (SO₄) 7.0 5.8 7.2 7.0 6.6 Mineral constituents Bicor-bonate (HCO₃) Corbon-ote (CO₃) Potos-1.2 0.05 Sodium (Na) 8.1 7.4 0.31 6.2 7.32 8.1 8.1 6.4 8.0 Magne-sium (Mg) 5.0 0.35 5.8 6.1 5.8 6.4 5.5 6.2 Calcium (Ca) 9.7 12 12 0.60 111 13 12 13 7.5 7.9 0.8 7:1 7.4 7: 7.2 7.0 Z-3 7.4 7.2 7.5 ar d Specific conductonce (micromhos of 25°C) 128 129 131 112 144 142 146 137 % Sat Dissolved mdd Discharge Temp Date and time sompled P.S.T. 9/11-19 10/11-16 11/11-20 11/21-30 12/15-20 12/22-31 12/1-14

b Laborotory pH.

John or carconnana magnessian (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown. Sum of calcium and magnesium in epm.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Duality of Water Branch (USGS): United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health (LADPH); Son Bernordino Caunty Flood Control District (SBCFCD); Metropoliton Water District of Southern California (MMD): Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Southern California Department of Water Resources (DWR); as indicated Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5)

133	
(STA.	
COLUSA	
AT	
RIVER	
SACRAMENTO	

		Analyzed by i		USGS											
		Hordness bid - Coliform Analyzed as CaCO ₃ ily MPN/mi by i											-		
	1	- pid mgg n		\$	009	04	35	15	15	10	C)	15	70	01	0 1 1 1
		0000	O E	0	77	-7	0	0	0	0	0	c	-1	0	0
				8	34	89	09	52	53	40	t _c	67	-77	53	w w
	0	- pos		777	21	20	23	54	22	23	214	22	23	36	52
	Total	solids solids	E DD E					761				89.t. 908			
		Other constituents						Pol, 0.05 As 9.00 ABS 9.0				Po _{tt} 0.00 As 0.00 ABS 0.0			
		Silico						124				224			
	niffion	Boron			0:0	0.0	0.2		0	0.0	0:0	0.0	0.1	0.0	0:0
	per million	Fluo-						0.0				0.0			
DAM: 4507	equivalents	Ni-	(NO 3)					0.2				0.5			
1	equiv	Chla- ride	(C)	5.8	0.00	6.0	6.5	5.4	3.2	4.4	2.2	2.5	4.8	5.6	2.08
ON THE U	ui s	Sul - fate	(80%)					6.4				5.0			
TATU OT	stifuent	Bicar- bonate	(HCO3)	34 1.38	36	1.28	16	1.13	1.11	1.0)	66	68	57	76	0.74
SACRAGEMIC STARS AT COLOGN	Mineral constituents	Carbon-	(600)	00.0	0.00	00.00	0.00	00.0	00.00	0.00	000	3.3	00.0	00.00	00.00
	Σ	Potos-	ξ.					0.03				8.00			
		Sodium (Na)		9.6	4.1	7:0 0:54	8.1	7.5	6.5	0.29	6.0	6.5	6.5	8.4	0.23
		Magne.	(% 3)					1.39				0.38			
		Colcium (Co)		1.33	0.680	1.36	1.20c	9.65	1.00	0.95	0.920	0.60	0.96	1.056	969.0
		Ĭ.	a/b	77.	1:	1	8.1	412	7:7	7.7	24.0		7.1	4.0	12.
	Specific	(micromhos at 25°C)		168	8	166	155	134	128	123	1119	125	125	141	5
			%Sof	35	35	93	76	3%	76	97	100	93	96	75	35
		Oisso	mdd	10.7	10.3	10.2	0.6	6.5	© ©	9.1	3.5	9.5	4.0	10.2	10.1
		Temp in OF		50	51	52	† ₉	179	89	39	69	†19	95	75	55
		Dischorge Temp		4,920	35,800	13,400	009,9	6,760	7,53	f,131	7,620	5,790	15,400	6,950	31,300
		and time sompled	1 8.	1/12	2/15	3/15	4/13 1000	02.0	6/18 1220	7/17	8/20	9/19	10/17	11/27	12/18 05 0

b Laboratary pH.

c. Sum of colcium and magnesium in epm.

e sum or controll and incorporation in the propert (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr¹⁵), reported here as 0.0 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laborotories, or United States Public Health Service (USPHS); Son Bernardino County Fload Control District (SBCFCD), Meteropolitan Water District of Southern California Opportment of Water and Pawer (LADMP); City of Los Angeles, Department of Water Resources (DWR); or California Department of Water Resources (DWR); os indicated.

CENTRAL VALLEY REGION (NO. 5)

		Analyzed by 1	USGS											
		bid - Coliform's MPN/ml	Maximum 2,400.	Minimum 2.	Median 62.									
		n ppm	15	800	100	25	50	15	10	0	35	09	25	20
		2000 N		-#	0	0	0	_	0	0	0	-1	0	0
			83	38	L+1	61	62	69	25	58	63	0 17	57	81
	å	and - End	32	22	22	53	59	54	31	쯢	27	53	56	62
	Toto	solved solids in ppm					117 ^f				115 ^f			
		Other constituents					PO _{1, 0.10} As 0.00 ABS 0.0				Po _{t, 0.05} As 0.01 ABS 0.0			
		Silico (SiO ₂)					53				24			
	llion	Boron (B)	0.1	0:0	0.1	0.0	0:0	0	0	00	0.0	0.1	0:0	0.1
(q†1	per million	Fluo- ride (F)					0.0				0.0			
SACRAMENTO RIVER ABOVE COLUSA TROUGH (STA. 14b)	equivolents per mili	Ni- trofe (NO ₃)					0.00				0.0			
USA TROU	e quiv		12 0.34	3.5	5.1	0.12	6.5	5.0	5.4	5.5	6.0	5.5	5.0	0.16
VE COL	U1 9	Sul - fote (SO ₄)					13				9.0			
IVER ABO	constituents	Bicor- bonote (HCO ₃)	109	42	62	78	1.29	76	1.23	1.28	1.41	77.0 0.77	79	1.02
AMENATO R	Mineral con	Corbon- ote (CO ₃)	00.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00.00
SACR	W	Potos- sium (K)					0.03				1.0			
		Sodium (No)	18 0.78	4.8	5.7	0.32	12 0.52	10	11 0.48	12	11 0.48	7.6	9.3	0.40
		Mogne- sium (Mg)					7.2				6.8			
		Coleium (Co)	1.66°	0.76c	0.94c	1.22	13	1.38°	1.08°	1.100	14	0.80°	1.14°	96.0
		F. C.	7.5	7.2	7:7	7.7	7.5	7.5	7.7	7.3	7.5	7.0	7.5	in the second
	Specific	conductance (micromhos at 25°C)	241	85	117	156	172	157	154	159	170	717	152	137
		1 5	75	16	28	95	93	95	98	%	95	₹8	76	91
		Dissolvad oxygen ppm %Sc	10.6	10.2	10.4	9.5	9.0	8.6	4.0	6.8	8.7	8.8	10.1	9.6
		E O E	20	51	0,5	63	89	69	69	19	89	26	54	25
		Discharge Tamp in cfs in oF	5,724	26,500	24,400	0,640	5,240	6,235	6,131	4774	5,729	21,600	7,200	22,000
		some time	1/12	2/15	3/9	1240	5/7 0755	6/18	7/17 0845	8/20 0845	9/19 0825	10/17	11/27	12/18

o Field pH

b Loborotory pH.

Sum of colcium and magnesium in epm.

2 June of carcium and magnesium with the second of the sec

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents

g Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureou of Reclamation (USBR); United States Department of Water Day Prover (LADWP); City of Los Angeles, Department of Surher California (WWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5)

11)
(STA.
DELTA
ΑT
RIVER
SACRAMENTO

		Analyzed by 1	USGS											
		Hordness bid Coliformh A ge CoCO ₃ tly MPN/mi Totol N.C. nppm	1 Max 1mum 2,400.	1500 Minimum 1.3	22.		24							
		yti- pod u		1500		·M	OV	ĈV.	()	W.		m	CI	Cl .
		CoCO3 CoCO3 N C	0	0	0	9	~	17	0	=	>	0	0	0
-		Hordi Totol PPm	54	30	04	37	φ _κ	35	00 -7	52	54	54	52	9,
-	Č	Nog L	13	15	17		57 [£] 13	174	25	<u>∞</u>	38 32	33	13	16
	Toto	solved solved in ppm					is				1101			
		Other constituents					PO1, 0.00				PO1, 0.00			
	,	(SiO2)					116				줘			
	milion	Boron (B)	0:0	0.0	0.0	0.0	ं।	0	ୃ	0-1	0:0	<u> </u>	0.3	7
_	Ē 5	E P					0.0				000			
IA. II.	equivolents	rrote (NO ₃)					0.00				0.00			
SLTA (S	e duiv	Chlo- ride (CI)	5.0	1.2	3.0	5.4	0.08	0.04	6.8	6.5 0.18	9.0	0.28	0.11	0.09
SR AT DE	<u>e</u>	Sul - fote (SO ₄)		1.0			0.0				1.4			
TIO RII VE	tituents	Bicor- bonote (HCO ₃)	60.08	34	46	38	44	47	67	78	80	92 1.34	999	1.02
SACRAMENTO RIVER AT DELTA (STA. 11)	Mineral constituents	Corbon- ote (COs)	00.00	00:00	00.0	0.00	0.00	00.0	013	00.0	000	0000	0.00	000
	Mine	Potos- C sium (K)					0.5				0.03			
		Sodium (No)	4.9 0.21	2.6	3.6	0.00	0.11	3.0	7.5	10	12 0.52	12 0.52	5.2	0.18
		Mogne- sium (Mg)					0.50				7.5			
		Calcium (Co)	0.91	0.60	0.80	0.74°C	5.0	0.78c	3LF-0	1.040	2.3	1.07°	1.04°	0.93
ľ		a/b	7.5	Ci+	7.7	1 00 1 00 1 00 1 00 1 00 1 00 1 00 1 00	2.0	7.8	7.7	ω ω ω	80 80	ω :: ω ::	7.6	
		conductonce (micromhos at 25°C)	112	99	88	73	80	82	124	144	153	152	117	108
ŀ		15 1	76	36	8	93	86	Ç	100	10%	111	107	101	66
		Dissolved oxygen ppm %Sc	11.7	11.3	11.6	10.7	10.h	10.3	e	5.*	10.5	11.0	11.7	5.
		Temp in OF	54	146	45	64	54	57	19	22	65	58	897	77 77
		Dischorge Temp	01/9	5,610	1,310	2,790	1,500	922	320	254	185	222	069	856
		Dote ond time sompled P.S.T.	1/8 1205	2/12	3/12	1505	5/1	0760	7/5	8/13	3/12	10/3	11/14	12/11 0910

b Laborotory pH.

c Sum of colcium and magnesium in epm.

c. Sum of calcium and magnessium in epin.

I no (Fe), aluminum (Al), avsence (As), copper (Cu), lead (Pb), manganase (Un), zinc (Zn), and hexavalent chromium (Cr⁻⁵), reported here as 0.0 except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Grovimetric determination.

Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USOS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Branch (USPRS), Son Bernardino County Flood Control Obstituted States District of Southern California (WMD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH), City of Lappen, California Department of Water Resources (DWR); as indicated

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CENTRAL VALLEY REGION (NO. 5) SACRAMENTO RIVER AT FREEPORT (STA. 15b)

		2	T														
		Anolyzed by i		0808													
		bid - Coliform ity MPN/ml	;	Median 620.	Maximum >7000. Minimum	ń											
	7117	- piq Vii Nbba		0,	9	150	25	01	15	15	20	25	10	15	25		
		Hordness oe CaCO ₃ Total N.C.	,	→	10	0	7	Н	0	0	0	0	0	0	0		
			:	- 61	74	04	45	77	54	92	54	72	63	61	82		
	Q	sod -		<u></u>	2	22	23	88	32	34	34	36	88	30	22		
	Total	solved solids in ppm	0	148	143e	20€	77 ^e	83£	108	115 ^e	112°	137 ^f 125 ^g	108	116	9 [†] 19		
		Other constituents						ABS 0.0; PO4 0.15				Ae 0.00; ABS 0.1; PO _{l,} 0.25					
		(Silico (SiO ₂)						17				19				 	
	lion	Boron (B)		-	0.1	0.0	0.0	0:0	0.0	0.1	0:0	0.1	0:1	6.3	0.1		
I I I	per million	Fluo- ride (F)						0.0				0.0					
ports per million		Ni- trote (NO ₃)						0.6				0.00			-		
Ĭ	equivolents	Chlo- ride (Cl)	Š	0.34	0.31	0.11	8.8	6.5	10	9.8	7.5	9.5	7.2	10	3.5	 	
	E S	Sul - fote (SO ₄)						9.0	9.0			13				 	
	constituents	Bicar- banate (HCO ₃)	u c	1.56	78	08.0	46	52 0.85	68	76	72	106	83	78	8 ¹ 0.79		
	Minerol con	Corbon- ote (CO ₃)	c	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00		
	Min	Potos- sium (K)		_				0.03				1.1 0.03					
		Sodium (No)	1,1	0.74	15	5.0	6.3	9.1	25.0	14 0.61	13	19	다.	12 0.52	17.0	 	
	Ì	Mogne- Sium (Mg)						0,40				8.4					
		Colcium (Co)		1.57°	1.490	0.80°	0.89°	9.6	1.08°	1.16	1.09c	15 0.75	1.26	1.216	0.76°	 	
	60	열	7	78:	7.1	7.8	7.5	7.3	7.5	7.7	7.3	7.3	7.4	7.5	7.2		
	Specific	(micrombos of 25°C)	2005	(25)	217	106	117	123	163	174	170	219	164	175	76		
		0	8	2	89	8	95	87	89	95	001	88	%	93	95		
		Dissolved oxygen ppm %Sc	7.01	- 01	10.4	10.5	7.6	8.7	8.3	8.2	8.9	0.8	8.8	9.4	10.8		
		Temp in of	176	2	82	84	92	8	99	02	22	8	est.68	65	9		
		Dischorge Temp in cfs in 0F M.D.	0100	75.10	9870	24400	32800	19800	13800	10200	11300	13200	8800 est	16100	38700		
	000	emit buo	1962	0910	2/7	3/8 0745	4/9	5/3	9/9	7/11	8/6 1425	9/5	10/3	11/8	12/5		

o Field pH.

b Laboratory pH.

Town Street Control of the Control of the Control of Co

c Sum of colcium and magnesium in epm.

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves

Gravimetric determination.

Annual median and range, respectively. Colculoted from analyses of duplicate monthly samples made by Colifornio Department of Public Health, Division of Laboratories, or United States Public Health Service.

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Public Health (LBDPH); Terminal Testing Lobaratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5) SACRAMENTO RIVER AT FREEPORT (STA. 15b)

		Anolyzed by i	USGS														
	-	Coli form ⁿ MPN/mi															
	Tur	n ppr															
		Hordness oe CoCOs Total N.C.	-	0	0	^	-21	3	0	2		0	0	0	۸	0	0
			75	62	62	3	34	2	847	\$5	%	51	36	37	2	94	56
		sod to so the solution of the	27	59	27	27	61	22	3	23	56	57	22	26	56	2	31
	Total	paylos paylos paylos	$\frac{134}{136}^{L}$	145 F	112 ^f 113 ^g	121 1256	29° F	871 986	84 f	92° BBB	101 F	925 r 996	73 ¹ 79 ⁸	711 f	85°E	92° 916	109 ^f 109 ⁶
		Other constituents	Fe 0.01	Fe 0.01	Fe 0.08	Fe 0.03	Fe 0.01	Fe 0.14	Fe 0.10	Fe 0.10	Fe 0.03	Fe 0.00	Fe 0.00	Fe 0.00	Fe 0.00	Fe 0.02	Fe 0.02
		Silica (SiO ₂)	25	27	81	(33	77	19	118	118	13	19	뙤	17	19	118	119
	million	Boron (B)	0.0	0:0	0:0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0:0	0.0	0:0	0.1
a of land	5	Fluo- ride (F)	0.1	0.01	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.01	0.0	0.0	0.00	0.0	0.0
porte par	equivolents	NI- trote (NO ₃)	1.1	0.0	1.2	0.0	1.0	0.02	0.01	0.0	0.6	0.0	0.9	0.0	0.02	3.0	0.05
	equive	Chlo- ride (Cl)	11 0.31	12 0.34	8.0	10	3.8	0.17	5.0	5.2	7.0	5.8	4.8	5.2	6.3	6.0	8.2
ŀ	c_	Sul - fote (SO ₄)	14	0.31	11 0.23	12 0.25	6.0	8.0	7.0	9.0	11	9.0	5.0	5.0	9.0	9.0	13
	constituents	Bicor- bonote (HCO ₃)	90	97	75	80	36	26.0	59 0.97	64	70	62	^{4,8} 0.79	46	53	38.0	70
	Minerol con	Corbon- O10 (CO ₃)	0,00	00:00	00.0	0.00	0.00	00.0	00.0	00.0	00:0	00.0	0.0	0.00	00:00	0.00	00:0
	Min	Potos- Sium (K)	1.4	1.4	1.4	1.5	1.5	1.4	0.03	0.03	0.03	0.0	0.0	0.03	0.0	0.8	0.03
		Sodium (No)	13	15	11 0.48	25.0	3.8	7.0	7.0	7.9	9.6	7.3	5.2	5.6	8.4	9.3	0.52
		Mogne- sium (Mg)	9.2	8.9	7.1	7.4	3.9	5.5	5.6	5.8	6.8	3.9	2.8	2.9	0.39	4.6 0.38	6.3
		Colcium (Co)	15	17	13	15	7.0	0.55	0.50	0.60	0.00	14 0.70	0.55	10	0.50	0.55	09.0
		م تا	7.5	7.7	7.6	7.5	7.1	7.3	7.5	7.5	7.6	7.8	7.4	7.5	7.6	7.8	7.5
	Specific	00-	204	223	171	188	986	131	127	141	157	131	101	100	124	136	163
		Dissolved oxygen ppm %Sot															
		Temp in of															
		Discharge Temp in cfs in of Avg. MD	9,310	8,720	13,300	13,100	65,800	51,900	45,100	42,200	27,200	30,400	30,600	23,730	22,000	22,300	19,400
		ond time sompled P.S.T.	1962	1/11-20	1/21-31	2/1-10	2/11-20	2/21-28	3/1-10	3/11-20	3/21-31	4/1-10	4/11-20	4/21-30	5/1-10	5/11-15	5/16-20

Field pH.

b Loborotory pH.

c Sum of colcium and magnesium in epm.

Sum of colcium and magnesium in epin.

Iron (Fe), aluminum (A1), assente (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr *6), reported here as 0.00 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Grovimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Surveau of Reclamation (USBR); United States Public Health Service (USPHS) , Son Bernardina Caunty Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

ANALYSES OF SURFACE WATER TABLE 8-14

CENTRAL VALLEY REGION (NO. 5)
SACRAMENTO RIVER AT FREEPORT (STA. 15b)

Suj - Continued Suj - Cont	0 0 0
Ports per million Ports	0 0 0
Ports per million Ports Ports	0 0 0
Ports per million Ports Ports	0 0
Color Colo	30 59 62
Ports per million Ports per million	115¢ 29 113¢ 29 108¢ 29
Ports per million Ports per million	1115° 1115° 108° 108° 27°
Poorls per million Poorls per million Poorls per million Poorls per million Poorls	Fe 0.00 Pe 0.01
Norts per million North	ୟା ଅ <u>ଅ</u>
Ports per Ports	0 0 0
3 1 3 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	0.02
3 1 3 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2.1 0.03 0.06 0.06
1 1 1 1 1 1 1 1 1 1	9.3 0.26 7.8 0.22
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	6.0 0.12 8.4 0.17
Constituents 1.25	84 1.38 78 1.28
	00.000000
Potas signary (K) (K) (K) (K) (K) (K) (K) (K) (K) (K)	1.3 0.03 0.03
Sodium (Naj)	12 0.52 0.48 4.0
Magnaria (Mg) (Mg) (Mg) (Mg) (Mg) (Mg) (Mg) (Mg)	6.3
Colcus (Co) (Co) (Co) (Co) (Co) (Co) (Co) (Co)	17 0.85 13 0.65 7.1
440 0.7.7.3.7.3.4.7.7.7.7.3.4.7.7.7.7.9.7.7.9.7.7.9.7.7.9.7.7.7.9.7.7.9.7.7.9.7.7.9.7.7.9.7.7.9.7.7.9.7.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.7.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.7.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.7.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.7.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.9.7.7.9.7.9.7.9.7.9.7.9.7.9.7.7.9.7.9.7.9.7.9.7.7.9.7.9.7.9.7.9.7.9.7.7.9.7.7.9.7.7.9.7.7.9.7.	7.8
Specific Conductonce (micromhos or 25°C) 175 175 175 175 167 189 189 180	176
01:5501ve d atygen atygen mgg mgg	-
E C C C C C C C C C C C C C C C C C C C	
16,700 11,100 11,000 11,900 11,700 12,800 12,600	11,100
bote sampled PS.T 1902 5/21-31 c/11-20 c/11-20 7/11-20 7/11-20 7/11-20 8/11-10 8/11-10	

_^62=

b Laboratory pH a Field pH

c Sum of calcium and magnesium in epm

Sum of calcium and magnesium in epin Iron (Fo, aluminum (AI), arcanic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺³), reported here as 0.0 except as shawn.

Derived from canductivity vs TDS curves

Determined by addition of analyzed canstituents.

Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratones, or United States Public Health Service.

It Mineral analyses made by United States Geological Survey, Quality of Water Bronch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardino Country Flood Control District (SBCFCD); Metropoliton Water District of Sauthern California (WWD); Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR), as indicated.

CENTRAL VALLEY REGION (NO. 5) SACRAMENTO RIVER AT FREEFORT (STA. 15b) (continued)

		Anolyzed by 1	USGS									
		Hordness bid - Coliform's os CaCOs ity MPN/ml Total N C. ppm										
	107	- bid - ty mpga										
		OCO S PPM PPM	0	0	0	0	0	0	0	0	0	4
		: 1	23	55	55	53	53	45	35	39	20	
	9	Sod -	52	56	27	56	56	22	54	55	52	
	Totol	solved solids In ppm	299 ^f 1078	100 ^f	101 f 1008	299 ^f	96°F	84 ^f 858	99 ^f	<u>76</u> f	4 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
		Other constituents	Fe 0.06	Fe 0.00	Fe 0.01	Fe 0.02		Fe 0.00	Fe 0.00	Fe 0.19 (unfiltered)	Fe 0.02	
		(Silica (S:02)	ଝା	21	55	27	ଥା	ଥା	ଯା	전 	[2]	
	million	Boren (B)	0:0	0:0	%	0:0	0:1	0:1	0:0	0.1		
0.101	per m	Fluo- ride (F)	0.2	0.01	0.1	0.0	0.2	0.2	0.0	0.00	0:01	
Contract of the contract of th	equivolents	rote (NO ₃)	2.0	1.4	1.3	1.4	1.8	0.03	0.03	2.1	0.03	
	vinbe	Chlo- ride (CI)	5.6	5.9	6.0	5.9	6.4	5.6	6.8	0.12	0.14	
(company)	ë.	Sul - form (SO ₄)	7.4	8.4	7.6	7.0	8.0	5.8	7.0	5.4	0.14	
	stituent	Bicor- banate (HCO ₃)	1.13	71	72 1.18	71 1.16	65 1.07	57 0.93	88	50	1:08	
	Mineral constituents	Corbon- ote (CO ₃)	0 0	0.00	0 0	00.0	0 0	0.0	00.0	0 00	0 8	
	ž	Potas- sium (K)	1.7	1.6	1.6	0.04	0.03	0.0	0.03	1.4	0.04	
		Sodium (No)	8.4	9.0	9.6	9.0	0.38	6.0	6.3	5.2	0.34	
		Mogne- sium (Mg)	5.5	6.0	6.1	5.6	0.40	14.14	5.8	3.6	6.40	
		Calcium (Co)	210		0.60	0.60	13	0.55	7 0 0 0 0	9.7	0.60	
		o H	7.1	7.4	7-4	7.4	7.1	7.3	7.5	7.3	7.3	
	91000	conductance (micromhos of 25°C)	145	148	148	145	140	113	137	106	134	
		Dissolved oxygen ppm %50										
		Temp in oF										
		Dischorge Temp in cfs in oF AVB. MD	28,300	17,200	15,500	16,600	20,300	30,900	21,300	47,500	34,500	
		Dote ond time sompled P.S.T.	1962	11/1-10	11/11-20	11/21-30	12/1-3	12/4-10	12/11-16	12/11-51	15/55-31	

o Freid pH.

b Lobaratory pH

c Sum of calcium and magnesium in epm.

c. Sum of calcium and magnesium in spm.

d. Iron (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zirc (Zn), and hexavalent chromium (Cr * 6), reported here as 0.00 except as shown.

e Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Sureau of Reclamation (USBR); United States Geological Survey, Quality of Water Branch (USPR); San Bernardina County Flood Control District (SBCFCD), Metropolitian Water District of Southern California (MWD); Los Angeles Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Divisian of Laborotories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5)

		Anolyzed by i	USGS											
		Hordness bid - Coliform os CoCO ₃ Ity MPN/mi Tatol N.C. nppm	2 Maximum 7,000.	1800 Minimum 2.3	15 Median 230.									
	100	- Pid - Pid - Pid - Did	C)	1800	15	25	m	9	m	0	10	9	100	00
		N C.	0	<i>.</i>	0	0	0	0	0	0	0	0	0	0
		Hord Os Co Tatol ppm	09	S. Ca	58	57	718	149	94	45	44	51	51	± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ± ±
	Q	sad -	25	22	21	22	23	23	23	25	8	57	25	772
	Totol	salved solids in ppm					93 ^f				84 ^f 888			
		Other constituents					PO _{1, 0.00} ABS 0.0				PO _{l, 0.05} As 0.00 ABS 0.0			
		Silico (SiO ₂)					65				54			
	ion	Boran (B)	0.0	0:0	0.0	0.1	0.0	0.0	0:0	0.0	0.0	0.0	0.2	0.0
13)	per million	Fluo- ride (F)					0.0				0.00			
IY (STA.	ports per mullion equivalents per mil	Ni- trote (NO ₃)					9.0				0.0			
LTON CI	aquiv	Chlo- ride (C!)	5.3	1.5	4.6	5.8	0.0	800	4.2	0.07	0.08	5.0	6.8	0.00
AR HAMI	uı s	Sul - fate (SO ₄)		9.0			8.0				0.00			
RIVER NE	constituents	Bicar- banate (HCO ₃)	1.20	34	72	68	62 1.02	1.05	62	64 1.05	64 1.05	64	62	9.00
SACRANENTO RIVER NEAR HAMILTON CITY (STA. 13)	Mineral co.	Carbon- ote (CO ₃)	00.0	00.00	0000	0.00	0.00	00.0	00.0	0.00	0.00	0.00	0.00	00.0
SACR	Mir	Patas- sium (K)					0.03	·			0.8			
		Sodium (No)	9.3	4.1	7.2	7.2	6.6	6.6	6.4	0.30	6.3	7.6	7.3	6.1 0.27
		Magne- Sium (Mg)					5.0				4.6 0.38			
		Calcium (Ca)	1.210	0.65	1.16	1.08	0.55	386.0	0.92°	0.90	10	1.02°	1.02°	0.87°
		a/b	7.9	7.00	7.5	7.3	7.00	7.0	7.5	7:0	7.5	7.5	7.4	7. 7.
	Specific	conductance (micramhas of 25°C)	159	83	152	136	126	121	118	116	116	129	136	114
			%	23	31	97	66	26	95	95	%	102	93	56
		Dissolved oxygen	10.8	10.5	10.3	4.6	10.2	7.6	7.6	8.6	9.6	10.7	10.2	10.5
		Temp in oF	50	50	50	63	299	09	59	58	09	96	52	82
		Dischorge Temp	4,180	57,+00	10,830	6,312	7,440	7,980	8,183	8,389	960'9	9,357	11,670	23, 41.0
		ond time sompled P.S.T	1/11	2/14	3/15	1320	5/14	6/13	7/18	8/21	9/20 0815	10/18 0750	11/28	12/19

b Laboratory pH.

c Sum of colcium and magnesium in epm.

c sum at cotetum and magnesium in epin.

d Iron (Fe), aluminum (Al), argenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁶), reported here as \$\frac{0.0}{0.00}\$ axcept as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

h Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by California Department af Public Health, Division of Loboratories, ar United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino Country Flood Control District (SBCFCD); Metropoliton Water District of Sauthern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Sauthern California Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT KESWICK (STA. 12)

		Analyzed by i	USGS											
		bid - Coliform' ity MPN/mi	Maximum 62.	Minimum 0.022	Median 0.62									
ŀ	į	- Pig - Pig	~	07	15	\sim	6	Φ	m	-3	10	٦	50	08
1		2000 N U CO O O O O O O O O O O O O O O O O O	0	31	N	0	0	0	0	0	0	0	0	0
		Hord Totol ppm	52	28	877	91	911	777	£ 4.3	43	ζ [†]	7,5	777	\$
	٥	sad -	23	12	23	25	22	23	72	25	22	72	22	CO
	Totoi	solids solids in ppm					87 ^f				78f			
		Other canstituents					PO _{1, 0.05} As 0.00 ABS 0.0				PO _{4, 0.10} ABS 0.2			
		Silico (SiO ₂)					75				잃			
	lion	Baran (B)	0.1	0:0	0.1	0.3	0.0	0.0	0.0	0:0	0.0	0.0	0.2	1:0
	per million	Flua- ride (F)					0.0		-		0.00	·		
77 . 17	5	rrate (NO ₃)					0.00	-			0.00			
Charles of the Asset of Asset of the	equivalents	Chlo- ride (CI)	4.0	0.07	2.8	3.9	3.9	0.05	2.5	0.06	0.00	4.2	0.00	0.07
CON THE	Ē	Sul - fats (SO ₄)	7,0	31 6.05	,0	.,0	7.0	- 1,0	0.10	0.10	0.00	0.08	0:00	0.10
ALL VEST	tuents	Bicar - S bonate (HCO ₃)	69 1.13	33 3	56 0.92	60.038	38 7	58 0.95	58 5	0.97	56.0	0.97	20-1	1.08
OTATION	Mineral constituents		0.00	0.00	00.00	0.00	0.00	00.00	00.00	0.00	0.00	00.00	00.0	00 0 0
2000	Minerol	Ss- Carbon- ate (CO ₃)	olo	olo	00	olo		010	olo	olo		olo	olo	oló
		Potos- sium (K)					1.3				0.8			·-·
		Sodium (No)	7.2	6.8	6.6	6.9	6.3	0.50	6.4	6.4	5.5	0.20	0.25	0.33
		Magne- Sium (Mg)					0.37				0.34			
		Calcium (Co)	1.040	1.10	0.50	0.926	0.55	0.88	0.87	0.860	0.50	0.84°	0.83	06.00
		H (2)	7.1	9.0	7.50	7.9	7.5	7.2	7.5	7.7	8.0	7.1	7.2	1.78 1.00
	Specific	conductonce (micromhos at 25°C)	134	143	126	122	1117	113	110	109	105	105	112	123
			73	95	ま	97	93	91	16	19	88	97	88	76
		Dissolved axygsn ppm %Sa	8.5	10.7	11.11	11.1	10.8	10.6	10.6	7.7	6.6	10.7	5.6	8.3
		Temp in of	81	00 ¹	24	641	891	64	817	64	51	52	75	53
		Orschorge Temp	3,200	3,240	7,000	3,190	7,660	8,790	10,500	11,000	7,790	6,100	060 *9	8,000
	-	ond time sampled P.S.T	1/11 0945	2/12	3/12	1600	5/1	6/7	7/12	8/10	9/8	10/2 0730	11/2 0915	12/10

b Laboratary pH.

c Sum of calcium and magnesium in epm.

c. Sum of calcium and magnessum in epm. d. Iron (Rb.), lead (Rb.), manganese (Mn), zinc (Zn.), and hexavalent chromium (Cr.*6), reported here as 0.0 except as shawn.

e Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents. g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Branch (USPHS); San Bernardino County Flood Cantral District (SBCFCD); Metropoliton Water District of Sauthern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5) SACRAMENTO RIVER AT RIO VISTA (STA. 16)

		Anolyzed by i		nscs													
	-	bid - Coliform		Median 230.	77000.	2.0											
Г	Tur-	- pid - pid n ppm		20	25	20	9	15	25	20	35	50	20	30	20		
		000 N		00	10	20	0	m	10	0	æ	0	0	0	0		
				47	72	†8	911	77 77	92	99	99	8	63	63	19		
	Per	Sod -		56	98	32	25	27	33	32	ŧ.	34	59	59	27		
	Total	solved solids in ppm		129 ^e	136e	160°	85e	815	115e	119 ^e	118€	$\frac{128^{\mathrm{f}}}{132^{\mathrm{g}}}$	1136	1136	108e		
		Other constituents						As 0.01; ABS 0.0; POL 0.10				As 0.01; ABS 0.0; Po _t 0.00					
	[Silica (SiO ₂)						17				19					
	lion	Boron (B)		0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.0	0:1	0.0	0.0	0.2		
million	per million	Fluo- ride (F)						0.0				0.1					
e	- 4	rrote (NO ₃)						0.0				0.4					
00	equivalents	Chlo- ride (CI)		9.8	0.31	14	8.2	6.0	7.8	9.9	8.0	9.4	8.5	0.28	8.3		
9	- 1	Sul - fate (SO ₄)				33		9.0	25 0.52			11 0.23					
constituents		Bicar- bonate (HCO ₃)		81	76	78	56 0.92	50	59 0.97	74	1.11	99	87	79	74		
Mineral cor		Corbon- off (CO ₃)		0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		
M		Potos- Srum (X)						1.2				1.3					
		Sodium (Na)		12 0.52	14 0.61	18	7.0	7.6	13	13 0.57	14 0.61	16	25.0	25.0	10		
		Magne- Srum (Mg)						4.7				7.9					
		Calcium (Ca)		1.47c	1.44c	1.68c	0.92°	9.6	1.16°	1.21°	1.20c	14 0.70	1.26°	1.26c	1.22°		
	63	12		7.1	7.1	3.0	7.1	7.3	7.5	7.4	7.2	7.4	7.4	7.3	7.3		1
	Specific	conductance (micromhas at 25°C)		201	212	250	133	118	180	186	185	203	176	177	169		
		1 5		82	87	88	92	55	986	93	108	83	93	79	87		
	i	Oxygen oxygen ppm %Sc		9.6	10.1	10.1	9.1	9.1	7.8	8 .v	4.6	7.6	8.6	7.9	6.6		
	1	Te o r.		94	84	64	19	29	88	72	72	69	29	99	20		
		Oischarge Temp	Tidal														
	9000	ond time sampled P S.T.	1962	1/8	2/7	3/8 1015	4/9	5/3 0915	6/6	7/11	8/2 1255	9/5	10/3	11/8	12/5		1

a Field pH

b Laboratory pH

c. Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Cr⁺⁵), reparted No. 1 lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reparted here as 9.0 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents. g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral onalyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau at Reclamation (USBR); United States Geological Survey, Quality of Water Branch (USGS); United States Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Los Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT SNODGRASS SLOUGH (STA.

	_	_														
			Anolyzed by i	USBR												
		£	n ppm MPN/mi					-								
		Į,	1 bid -													
			Total N.C.													
		9	sod -		31	21	8	19	90	29	8	8	27	19	23	र्ले
		Totol	solids in ppm		146	36	104	78	102	142	130	128	108	72	152	70
			Other constituents													
			(SiO ₂)													
	un	uoillic	Boron (B)													
97)	r aillie	per n	Fluo- ride (F)													
STA.	ports per millian	equivolents per million	rrate (NO ₃)		9.0	0.0	٥٠٥	0.0	0.0	0.62	0.62	0.0	0.0	1.2	9.0	0,0
SLOUGH		equiv	Chlo- ride (CI)		15	8.5	7.8	7.1	7.1	15	6	8.5	11	£.3	6	†°-9
GRASS	9	- 1	Sul - fote (SO ₄)		15	7.7	11	77	7.7	77	14	21	8.2	8.2	6.7	8 v.
AT SNOD	***************************************	THAN I I	Bicor- bonate (HCO ₃)		89	8%	52	74	51	73	8	7	88	56	83	57
SACRAMENTO RIVER AT SNODGRASS SLOUGH (STA. 97)	Money Inch	- 1	Corban- ate (CO ₃)		0:0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	0:0	0.0	0.0
CRAMENT	Min		Potos- sium (K)		1.2	1.2	8.0	0.39	1.6	1.2	1.2	0.8	1.6	1.2	0.78	2.1
/S			Sodium (Na)		16	5.5	0.9	5.1	7.6	13	2	174	2	3.0	10	6.9
			Calcium Magne- (Co) (Mg)		8.0	5.6	5.7	7.4	0.9	7	9	8.1	6.1	2.8	7	2.0
			Calcium (Co)		118	8.6	Image: Control of the control of the	ᆲ	9.4	14	77	77	17	6.2	17	10
			DH Q		7.1	7.1	7.1	7.1	7.2	7.4	7.6	7.7	6.9	9.9	8.0	7.5
		Specific	conductance pH (micromhos at 25°C)		526	107	131	114	139	181	165	172	181	62	171	123
			gen 9% Sof													
			Disso													
			- i		911	20	20	59	62	72	72	77	7	79	8	7
			Dischorge Temp	Tidel												
			ond time campled P.S.T.	1962	1/18	2/12	3/12	4/16 1330	5/14	6/28	7/16	8/13	9/20	10/15	11/13	1120

a Field pH.

b Lobaratory pH.

c. Sum of calcium and magnesium in epm.

c. Sum of calcium and magnesium in epm. d. Iron (Fe), oluminum (AI), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from canductivity vs TDS curves.

Determined by addition of analyzed constituents.

g Gravimetric determination.

32505-D-H 1-61 200 JPU Annual medion and range, respectively. Colculated from analyses of duplicate monthly samples made by Californio Department of Public Health, Division of Laboratories, or United States Public Health Service (USPHS); San Bernardino Country Flood Chinerol District (SBCFO); Mercopoliton World District of Southern California (WMD); Los Angeles Department of Mater and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Beach, Department of Dublic Health (LADPH); Terminal Testing Laboratories, Inc. (TLL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

Anolyzed by i

USBR

Tidal

2/15

3/13 1130 5/14

Dote ond time sompted P.S.T.

Hordness bid - Coliformh es CoCO₃ IIy MPN/ml Total N.C. 1 000 Solids opids 124 104 126 204 260 224 100 92 Other constituents Silico (SiO₈) Boron (B) equivolants per million ports per million Fluo-ride (F) SACRAMENTO RIVER AT TOLAND LANDING (STA. 15a) rote (NO₃) Cho-Sul -fote (SO₄) Mineral constituents in Bicor-bonote (HCO₃) Corbon-Potos-sium (X) Sodium (No) Mogne-stum (Mg) Calcium (Co) Ę Specific conductance (micromhos pt 25°C) 141 178 122 172 267 328 123 327 %Sot Dissolved Egg Discharge Temp 20 52 88 2 2 7 77 4

8/21 9/20

7/16

6/18

o Field pH.

b Loborotory pH.

Sum of calcium and magnesium in epm.

Sum of catching and inspirasion in epin.

Iton (Fe), aluminum (A1), area (A2), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chromium (Cr*5), reported here as 0.0 except as shown. Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Grovimetric determinotion.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Lobaratories, as United States Public Health Service.

²⁸ Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Medith (LADPH); Son Bernardino Country Flood Control District (SRCFCD); Metropoliton Water District of Southern California (WWD), Las Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Medith (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated.

Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (No. 5)

14a)	
(STA.	
LANDING	
KNIGHTS	
NEAR	
SLOUGH	
SACRAMENTO	

9

		Analyzed by i	USGS													
		bid - Coliform 11y MPN/ml	Maximum 2,400.	Minimum 2.3	Median 146.											
	ŀ	- Piq	50	009	Q.	0 7	- 25	3)	25	50	50	70				
		SS Ng	0	6	Ь	0	0	0	0	0	0	m			 	
-			179	70	106	130	141	164	158	165	149	37				
-		P S C C C C C C C C C C C C C C C C C C	27	33	4°C	23	r 28	28	68	31	F 26	36				_
	Totol	solved solids in ppm					223 ^f				232 ^f 256 ^g					
		Other constituents	Tot. Alk. 242				PO1, 0.35				PO4 12-35					
	1	(SIIICO)	01	- 10	AI.	01	128	10	10		1 28					
(a)	million	Boron (B)	0.0	0,0	ं	0:0	0 0 0	0:	0.0	ं।	10	0.1				
TA. 14	1 H 1	550					0.00	<u> </u>			0.1					
S) DATE	equivolents per million	Ni- trote (NO ₃)					0.0				0.8					
ILS LAN	equin	Chio- ride (CI)	24	0.51	25	13	22	0.59	18	18	12 0.34	4.8				
R KNICH	č	Sul - fote (SO ₄)					0.23				0.15					
JGH NEA	atituenti	Bicor- bonote (HCO ₃)	236 3.87	74	134	172 2.82	3.02	213	3.64	248	3.67	42.0				
SACRAMENTO SLOUGH NEAR KNIGHTS LANDING (STA. 14a)	Mineral constituents	Corbon- ots (CO ₃)	0.10	00.0	00.0	00:00	0.00	00.00	00.00	0.00	00.00	00.0				
SACRAME	Mine	Potos- Sium (K)					1.6				2.0					
		Sodium (No)	30	16	1.09	18	1.09	30	30	34	1.09	9.6				
		Magne- sium (Mg)					1.52				1.58					
		Colcium (Co)	3.586	1.740c	2.12c	2.60	26	3.28	3.163	3.300	28	0.740				
	_	a, Sara	7.7	7:5	7.5	7.5	7.7	7:9	7.9	8.0	7.7	7.2				
	;	Specific conductance (micramhas at 25°C)	1,50	203	312	314	366	397	401	425	377	101				
			85	16	86	103	70	80	78	82	83	78		ED		
		Dissolved oxygen ppm %So	10.0	6.6	10.0	4.6	7.2	6.7	6.3	6.3	7.7	8.1		NOT SAMPLED		
		Eo ci	17	53	53	69	74	11	80	78	71	57	SAMPLED	1		
		Discharge Temp	199	FLOODED	FLOODED	578	652	810	456	963	720	FLOODED	NOT SAM	FLOODED		
		ond time sompled P.S.T.	1/12	2/15	3/9	4/6	5/7	6/18	7/17	8/20 080(9/19 073 5	10/17 0750	11/27	12/18 0835		

267

o Field pH

b Loboratory pH.

c. Sum of colcium and magnessum in epm.

c. Sum of colcium and magnessium in epm.

d. Iran (Fe), olumnium (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr⁺⁶), reported here as 0.0 except as shown.

d. Iran (Fe), olumnium (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr⁺⁶), reported here as 0.0 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service (USPHS), Son Bernardino County Flood in Mineral analyses made by United States Geological Survey, Quality of Water Bronch (USSS); United States Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated.

ANALYSES OF SURFACE WATER CENTRAL VALLEY REGION (NO. 5) TABLE 8-14

SALT SLOUGH AT SAN LUIS RANCH (STA. No. 24c)

This This		_				_											_
1			Anolyzed by i	USGS													
1 1 1 1 1 1 1 1 1 1			Coliform** MPN/mi	Median	Maximum 7000.	Ainimum 13°		_									
1 1 1 1 1 1 1 1 1 1	Ì		- piq -				15	8	96	09	15	30	30	15	25	15	Ī
1			CO3		360	349	315	323	166	91	83	7.1	71	172	177	224	
1					691	945	767	1480	330	224	213	202	214	350	369	425	
1		Č	sod -		61	09	61	61	57	57	52	75	55	61	59	09	
1 1 1 1 1 1 1 1 1 1		Totol	dis- solved solids in ppm						935				576				
The control of the									Po _{1, 0.50}				PO ₁ 0.30				
The control of the			Silico (SiO ₂)						113				25				
Column C		Ilion	6		3.5	2.6	6.4	1.2		0.1	0	0.3		9.6	ᆌ	9.0	
1		per a	1 500						0.3				0.2				
1		ours per	_						3.4				2.6				
1	İ	equiv	Chlo_ ride (C!)		439 12.38		412 11.62		270	176	169	148	168	353	303	12.98	
10 10 10 10 10 10 10 10	Ì				330	522 10.89		508 10.58	221	2.56	2.17	83 1.73	8 6	203	256 5.33	4.77	
10 10 10 10 10 10 10 10		stituent	Bicor- bonote (HCO ₃)		255	3.93	3.51	3.15	3.28	162	158 2.59	160	174 2.85	3.56	3.84	237 3.88	
Size		erol cor	Corbon- ofe (CO ₃)		0.0	000	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0	0.0	0.13	
Colstant Colstant		Ĭ	Potos- sium (K)						6.8				0.11				
Specific Specific					332	380	346	342	208 9.05	134 5.83	130	111	124 5.39	250 10.88	248 10.79	294 12.79	
01.5chorge Temp Oissolved Conductiones plub in cfs in of ppm %5.04 (micrombos) plub (microm			Magne- sium (Mg)						38				23 1.93				
01.5chorge Temp Oissolved Conductiones plub in cfs in of ppm %5.04 (micrombos) plub (microm			Colcium (Co)			10.92	08.6	9.60	3.49	4.48	1.26	4.04	2.35	6.99	7.38	8.50	
01.5charge Temp O18501 ved oxygen oxy			P.		7.6	7.4	7.7	7.8	7.6	7.5	8.0	7.7	7.8	8.2	7.9	φ 	
01.5charge Temp O18501 ved oxygen oxy		Spacific	conductance (micromhos		2,350	2,690	2,430	2,440	1,530	1,070	1,020	862	976	1,750	1,760	2,180	
015charge Temp Oisson on the control of the control					39	84	72	58	62	8	92	98	73	104	52	0110	
01scharge Temp 11n cfs in of 51			Oisso		9.4	5.2	8.2	5.4	5.7	7.4	7.5	7.0	0.9	9.8	7.1	11.8	
			Te ori		84	53	64	99	99	89	8	8	75	59	69		
			Oischarge in cfs		51	2	1	%	42	92	90	09	105	25	75	18	
				1962	1/11	2/7	3/1 0915	4/5 1025	5/1	6/5	7/3	8/8 1310	9/7 1130	10/5	1315	7/21 1415	

o Field pH.

b Loborotory pH.

c Sum of colcium and magnesium in epm.

c sum or carcium and magnesian in epin.

I support (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reported here as 0.0 except as shown.

O 0.00

e Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Grovimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health (LADPH); Son Bernardino Country Flood Control District (SBCFCD); Metropoliton Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Sportment of Sportment of Public Health (LADPH); City of Long Boach, Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5) SAN JOAQUIN RIVER AT ANTIOCH (STA. 28)

		Analyzed by 1		USGS												
		n ppm MPN/ml		Median 230.	77000. Minimum	• 63										
	Tur	- bid - fy mgg n		30	54	35	9	25	25	15	45	9	45	25	15	
		N COS		91	04	64	2	6	19	8	217	154	56	27	Q	
				158	102	106	81	52	75	142	285	228	140	28	69	
		Pos Pos		99	36	41	35	94	57	17	77	73	69	917	×	
	Total dis-	solved salids in ppm		578°	185°	208°	133°	124^{f}	198°	578°	1414e	1030 ^f 1050 ^g	534°	167°	124e	
		Other constituents						PO _{1, 0.00}				PO ₄ 0.15				
		(S) (S)						15				15				
	- Fillion	Baran (B)		0.1	0.1	0.1	0:1	0:0	0:0	0:1	0.2	0.1	0:1	0:0	잉	
n-Hia	- P84	Fluo- ride (F)						0.03				0.01				
1 60 1	equivalents p	Ni- trate (NO ₃)						0.2				2.9				
	equiv	Chlo- ride (CI)		250	20 0.56	44	26 0.73	0.82	60 1.69	253	690 19.46	512	222	1.18	24.0 0.68	
5	- 1	Sul - tate (SO ₄)						14 0.29				79				
constituents		Bicar- banate (HCO ₃)		82	75	70	71	52 0.85	1.11	76	83	81:18	102	81 1.33	1.26	
Mineral car		Carbon- ote (CO ₃)		0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.00	0 000	
×		Polas- sium (K)						1.6				0.26				
		Sadium (Na)		138	26	34	20 0.87	21 0.91	2.00	162 7.05	440 19.14	302	146	31 1.35	1.8 0.78	
		Magne- sium (Mg)						6.0				3.11				
		Calcium (Ca)		3.15°	2.04°	2.12°	1.62°	0.55	1.50°	2.81c	5.71c	29	2.80°	1.56°	1.30	
	ed).	H		7.3	7.1	7.1	7.3	7.8	7.5	7.7	7.5	7.5	4.7	7.2	7.5	
	Specific	(micramhas at 25°C)		1,050	336	379	241	208	360	1,050	2,570	1,920	176	304	225	
		1 0		77	83	986	8	93	8.	8,	89	%	92	74	85	
		oxygen ppm %S		9.0	9.5	9.5	4.8	8.5	8.2	8.5	7.8	7.5	7.0	7.2	8.9	
	ŀ	10 PF		9	52	52	99	-88	98	73	72	73	69	62	23	
		Uscharge lemp	Tidal													
	0018	ond time sampled P.S.T	1962	1/11	2/15	3/8	0560	5/8 0930	9/9	7/10	8/2 1135	9/5	10/3	11/13	12/10	

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

c sum of calcum and magnessum in epin.

d Iron (Fe), aluminum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr*⁵), reported here as 0.0 except as shown. e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardina Country Flood Cannal District (SBCFCD), Metropolitan Water District of Sauthern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annyal median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Labaratories, or United States Public Health Service. Gravimetric determination

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT BRANDT BRIDGE (STA. 1018)

	lyzed y	USBR								
_	4) s							 	
	Hordness bid Coliformh Analyzed oe CaCO ₃ ify MPN/ml by i									
	- pig									
	CaCO ₃	Edd					 		 	
		da					 	_	 	_
	solids cont	-	17	5 43	917 0	777 9	 		 	
-	9 5 5 E	100	364	172	380	924	 			
	Other constituents									
	Silico (SiO ₂)									
on illion	Baron (B)									
r million										
parts per million	N:- trate									
equivalents	Chlo-		7/8	36	111	124				
<u></u>	Sul - tate (SO.)	+								
tituents	oanate HCO.	'n								
Mineral constituents in equivalents per mill	Potas- Carbon – B	,								
Mine	Sium Sium (K)									
	Sodium (No)		29	27	93	73				
	Mogne- sum (Mg)									
	Colcium Mogne-									
	Ŧ									
	conductance (micramhas		532	275	644	716				
	Dissolved Osygen									
	Temp		54	47	17	8				
	Oischarge Temp	Tidal								
	ond time sampled	194"	1000	5/15	3/28	11/14				

a Field pH.

b Lobarotory pH.

Sum of calcium and magnesium in epm.

Sum of calcum and magnession in epin.

Iron (Fe), aluminum (Al), areance (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of anolyzed constituents. Derived from conductivity vs TDS curves

Grovimetric determination.

³²⁵⁰⁵⁻D-H 6-61 200 SPO i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBP); United States Department of Southern California (WMD); Los Angeles Department of Water and Power (LADMP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated. h Annual medion and range, respectively. Calculated from analyses of duplicate monthly samples made by Californio Deportment of Public Health, Divisian of Laboratories, or United Stores Public Health Service.

2

ANALYSES OF SURFACE WATER CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT CROWS LANDING BRIDGE (STA. NO. 26b)

	Analyzed by §	USGS													
	bid - Coliform 11y MPN/mi	7	Maxdmum	Minimum 6.2									-		
1 1 1 1	bid - Ity In pom		8	8	35	09	30	25	6	15	8	15	91	30	
	SON NO		136	181	20	122	166	9	85	63	04	04	89	137	
			336	358	145	242	8%	8	190	707 20†	170	174	250	306	
å	e od –		59	09	58	58	59	14	59	57	58	57	59	59	
Totol	solved solved in ppm		1010				8998				1,85	167	919		
	Other constituents						PO ₁ 0.40				POL 0.50				
	(Silico (SiO ₂)		77				N				81				
illion	Boron (B)		긔	1,3	0.5	0.9	0.5		7.0	0.3	0.2	0.2	0°.4	0.7	
per million	Fluo- rids (F)		0.5				0.2				0.0				
equivalents per mil	Ni- trate (NO ₃)		0.07				3.2				3.2				
equi	Chlo- ride (CI)		7.31	8.35	100 2.82	205 5.18	272 7.67	23	155	151	3.75	3.84	196 5.53	7.19	
ë	Sul - fate (SO ₄)		239 1.98			3.77	170				1.67				
constituents	Bicor- bonote (HCO ₃)		7.00	3.54	1:90	2.39	161	28 0.46	2.10	172 2,82	2.61	163	3.64	3.38	
Mineral cor	Corbon- gie (CO ₃)		000	000	0.0	0.00	0.0	000	000	000	000	000	000	0.0	
M	Potas- sium (K)		0.11				0.10				3.4				
	Sodium (Na)		22th 9.7th	248 10.79	3.96	156	8.70	12 0.52	124 5.39	5.39	100	108	166	202 8.79	
	Mogne- sium (Mg)		3.58				36				19				
	Calcium (Co)		63 3.14	7.17°	2.90	T. SE	2.99	0.58	3.88	1.08	37	3.48	2.00	6.12	
	o I		T.T	7.9	7.6	T.T	7.8	7.1	7.7	7.7	7.8	7.9	8.2	8.2	
Specific	conductonce (micramhos at 25°C)		1,630	1,820	715	1,190	1,470	123	928	925	810	836	1,210	1,540	
			8.	82	93	107	108	8	56	100	76	81	91	91	
	Dissolved oxygen ppm %Sa		10.9	9.1	10.7	6.6	10.3	4.6	8,2	±. 8°	8.2	9.5	9.1	9.8	
	Ten or		45	52	148	19	† ₉	69	47	76	13	89	09	55	
	Discharge Temp in cfs in of		9 9	-	1	1 1 3	8 8 1	1	1	1	B T	İ	1	1	
	Date and time sampled P.S.T.	1962	1/18	2/8	3/1	1300	5/1	6/5	1/3	8/9	9/6	100/4	11/8	12/6	

b Laboratory pH.

c Sum of calcium and magnessum in epm.

c. Sum of calcium and magnessium in April. despect (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr¹⁶), reported here as 0.0 except as shawn. d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr¹⁶), reported here as 0.0 except as shawn.

o Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

Grovimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR), United States Department of Water and Power (LADWP), City of Los Angeles, Department of Water and Power (LADWP), City of Los Angeles, Department of Water and Power (LADWP), City of Los Angeles, Department of Water Resources (DWR), as indicated.

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT CROWS LANDING BRIDGE (STA. 26b)

	Anolyzad by i		USER											
	in ppm MPN/mi			-										
,	bid - pgg n													
	Hardnese os CaCO ₃ Total N.C. ppm ppm													
<u>_</u>					~		<u>~</u>						-	
-	S Sod -		99 99	94 9	L+1 17-	14 55	L+1 +7	38	14 50	647	2 20	45 4	4 54	9
Toto	solved solids fin ppm		976	566	1 211	874	314	126	504	532	टाउ	ħ99	824	048
	Other constituents													
	Silica (SiO ₂)													
clion	5													
million per million	Flua- ride (F)													
parts per million														
- inge	Chio- ride (CI)		248	143	89	224	77	200	130	138	142	1182	219	<u>243</u>
Ē	Sul - fore (SO ₄)													
stifuent	Bicar- banate (HCO ₃)													
Mineral constituents	Carbon- ote (CO ₃)													
Min	Potas- srum (K)													
	Sodrum (Na)		198	39	72	169	54	17	91	8	8	123	161	-
	Calcium Magne-													
	(Ca)													
	I													
C. J. C. C.	anductance micromhos at 25°C)		1,548	369	999	1,324	₹05	196	198	862	855	985	1,289	1,363
	Dissolved conductonce oxygen (micromhas Facombas Popular)													
	Te or		\$	52	54	02	t ₉	† ₉	42	62	73	8	65	53
	Discharge Temp													
	ond time sampted P.S.T.	1962	1/15	2/14 1310	3/14	4/17 1250	5/15	6/14	7/16	8/15	9/17	10/16	11/15	12/13 1200

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b Laboratory pH.

Sum of colcium and magnesium in epm.

Sum at calcium and magnessium in epin.

Iron (F), oluminum (AI), areacited (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr +5), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents. Gravimetric determination

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamotion (USBR); United States Department of Water Broad Power (LADWP); City of Los Angeles, Department of Subhern California (WMD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Subhern California Department of Water Resources (DWR); os indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); os indicated. Annual median and tange, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

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ANALYSES OF SURFACE WATER TABLE B-14

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER NEAR DOS PALOS (STA. 25a)

		Anolyzed by i		USER							·				
		bid - Caliform'													
-	Ţuŗ.	P - C													
		Hordness os CaCO ₃ Total N.C. ppm ppm													
		e dent		3	51	51	647	45	94	4	43	64	0,5	51	55
	Tatel	solved solids in ppm		727	596	662	†2†	254	194	192	363	270	1,28	1,488	1482
		Other constituents													
ŀ	uo	Boron Silica (B) (SiO ₂)													
	per million	Fluo- B rids (F)													
	i	Ni- trote (NO ₃)		9.0	2.5	9.0	1.9	0.62	9.0	9.0	9.0	0.0	9.0	9.0	1.2
	equivalents	Chlo- ride (CI)		127	143	173	8	53	24	31	18	65	109	138	133
	** E	Sul - fote (SO ₄)		81	136	147	66	22	36	4	34	04	8	8	8
	constituents	Bicor – bonate (HCO ₃)		126	145	149	91	63	75	72	77	8	129	727	172
	Mineral cor	Corban-		5.1	0.0	0.0	0.0	0:0	0.0	0.0	0:0	0.0	0.0	0.0	0.0
	M	Polas- sium (K)		3.1	3.9	3.1	2.0	2.1	5.0	1.6	0.0	2.3	2.3	2.3	2.2
1		Sodium (Na)		8	601	120	2	37	31	56	3	24	75	87	87
		Magne- Stum (Mg)		22	22	31	19	피	9.0	8.5	13	2	22	8	19
		Calcium (Co)		3	53	747	32	8	16	17	28	22	00	38	33
	_	F S S S		8.5	7.5	8.0	7.3	7.5	7.4	7 - 14	7.0	4.7	8.0	7.9	7.9
	Specific	canductonce (micromhos		092	972	1,065	959	004	317	275	1493	1439	959	756	823
		Oissolved oxygen ppm %Sol													7-1-1-1
		Ouschorge Temp in cfs in of		541	52	175	7	69	ħ9	88	8	1/4	09	59	53
		Oate and time sampled P.S.T.	1962	1/15	2/14 1610	3/15	4/16 1555	5/15	6/14 1515	7/16	8/15 1530	9/17 1325	10/16	1500	12/13 1430

a Field pH

b Loboratory pH

c Sum of calcium and magnesium in epm.

c. Sum of calcium and magnessium in spm. d. Iron (Fe), oluminum (AI), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr*6), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of onolyzed constituents. Derived from conductivity vs TDS curves.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laborataries, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of Mater and Power (LADMP), City of Los Angeles, Department of Sauthern California (MMD); Los Angeles Department of Mater and Power (LADMP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Tity of Long Beach, Department of Public Health (LADPH); Terminal Testing Laborataries, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

SAN JOAQUIN RIVER AT FREMONT FORD BRIDGE (STA, NO. 25c) CHUTRAL VALLEY REGION (NO. 5)

		Anolyzed by i		nscs												
		bid - Coliformh		Xed ta	42. Maximum 7000.	Minimum 2.3										
	ŀ	bid -			15	25	8	45	15	35	10	8	8	15	10	15
		Hardness as CoCO ₃	N		187	327	103	248	199	170	170	&	62	181	257	559
			Totol		361	512	218	394	338	317	332	236	240	350	1436	164
		cent sod -	_		29	09	99	57	57	65	57	95	95	29	65	8
	Total	solved solids	in ppr						941				673			
		Other cooperate	- 1						ABS 0.0 Po ₁ 0.10				ABS 0.0 As 0.01 PO ₄ 0.45			
		Silico	(2012)						r				23			
676	million	5	(B)		0.7	2,3	6.9	7-7	0.5	0.1	0.3	00	0.2	0.3	0.5	6.0
001	10111101 10111101		(F)						0.03				0.3			
on solden alven at the fold black, (six, no, s)c)	ão l	`	(NO3)	-			-		0.00	_			3.0			
ord Diaz	ports p	Chio-			328	12.98	147	360	323	308	305	192	5.87	354	452	885 24.97
ENDINE	Ē	Sul -	(\$0.04)		225	412 8.58	3.00	294	184 3.83	3.50	3.16	2.17	2.31	3.41	224	4.30 8.95
u wi tu	constituents	Bicor-	(HCO ₃)		3.47	3.70	2.29	178	2.77	2.93	3.25	3.11	3.21	3.38	3.57	250 4.10
STATUS ASTA	Mineral con	-uoquo	(500)		000	0000	000	000	000	000	000	000	000	000	000	0.0
יייי פטעמייי	Min	Potos-	(X)						6.8 0.17				4.7			_
3		Sodium	(Na)		232	350	126 5.18	244	9.10	012	20h 8.87	140	146	9258	292	520 22.62
		1 4	(Mg)						3.3.38				26			
		Colcium	(co)		7.22	10.25	1.35	7.88	3.50	6.34	79.9	4.72	25.09	966.9	8.7?	15.28
		Ha			8.1	7.6	00.	7.6	7.8	7.7	7.9	7.6	r! 80	8.1	7.9	7.8
		conductonce (micromhos	3		1,780	2,500	Ecc.	1,890	1,590	1,530	1,580	1,090	1,150	1,690	2,170	3,840
			%Sot		105	77	06	107	101	107	126	137	108	86	б.	78
		Oissolved	mdd		12.2	8	10.3	0,	7.6	4.6	10.4	10.9	9.5	8,9	0.6	0
		Temp in oF			824	52	1,3	68	19	71	78	82	92	89	19	53
		Oischorge Temp			156	116	870	202	173	188	116	521	130	63	8g	23
		Dote and time	P S.T	1962	1/11	2/6	3/1	1120	5/3	6/5	7/3	8/8	9/7	10/4	1200	12/7 11:50

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o Field pH

b Loborotory pH

c Sum of colcium and magnesium in epm.

c. Sum of conclum and integers in spire.

d. Iron (Fe), aluminum (A1), assence (As), copper (Cu), Tead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺³), reported here as $\frac{0.0}{0.00}$ except as shown. e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g. Grovimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardina County Flood Control District (SRCFCD); Metropoliton Water District of Southern Colifornia (WMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Southern Colifornia Department of Water Resources (DWR); as indicated
Public Health (LBDPH), Terminal Testing Lobaratories, Inc. (TTL); or California Department of Water Resources (DWR); os indicated

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT FRIANT DAM (STA. NO. 24)

		Analyzed by i	USGS													
		bid - Coliform Ity MPN/mi	Median	62. Maximum 7000.	Minimum 0.13											
		Pid - bid - ty - mgg n		9	77	Φ	15	m	9	7	α	m	8	m	m	
		8 00 N		0	0	0	0	0	0	0	0	0	0	0	0	
				15	15	34	S	17	16	15	14	17	15	15	14	
		Sod -		1,1	14.3	41	77	07	42	77	917	77	œ ₁	41	12.3	
	Total	dis- solved solids in ppm						45				07				
		Other constituents						Po, 0.20				FO ₁ 0.10				
	1	Boron Silico (B) (SiO ₂)	-					21				122				_
047	on line	Bor _o (B)		0.8	0:1	0.1	0:1	0:0	0.0	0	0.1	0.1	0.1	00	0)	_
	r militon	Fluo- ride (F)					<u> </u>	0.02				0.0				
משונים וואביי עד החיים בשני (מדעי וודמים וואפ	ports per militon							0.03				0.05				
THOUT				1.8	5.1	8.5	6.5	6.0	0.20	0.1	0.13	3.7	6.0	0.11	3.4	
ייי איז	Ē	Sul - fote (SO ₄)						0.03				0.05				
THE WITTEN	Mineral constituents	Bicor- bonate (HCO ₃)		21 0.35	22 0.36	46 0.75	31	22 0.36	0.34	0.34	24 0.39	22 0.36	20	0.36	20	
ON INC	nerol co	Corbon- ote (CO3)		0.00	000	000	0.00	0.00	0.00	000	0.0	0.00	0.00	0.00	0000	
	ž	Potos- sium (X)						0.03				0.5				
		Sodium (No)		5.3	5.4	11 0.48	0.33	5.7	5.3	5.5	5.5	5.1	6.4	4.8	0.20	
		Mogne- sium (Mg)		<u>.</u>	_ U	<u>.</u>		0.08				0.0			v	
		Colcium (Co)		0.30	0.30	0.68	97.0	0.26	0.32	0.30	0.28	1.4	0.30	0.30	0.27	
		E E		7.0	7.0	7.4	7.7	7.1	7.1	7.3	7.7	7.3	7.1	7.1	7.5	
		conductonce (micromhos		55	57	120	78	63	65	55	57	24	09	55	51	
		1.5		88	76	109	109	100	119	119	105	105	117	83	102	
		Dissolved oxygen ppm %Sc		10.2	11.4	12.2	12.2	11.3	13.0	12.7	11.9	12.0	12.3	9.5	18.3	
		Temp in oF		87	74	51	51	20	53	55	617	64	96	64	45	
		Dischorge Temp		58	53	65	89	106	132	162	155	118	16	42	69	
		Dote ond time sompled P.S.T	1962	1/8 0930	2/5 1020	3/5	4/9	5/7	6/7	7/10	8/6 0825	9/4	10/5	11/8	1040	

Field pH.

b Loborotory pH.

c Sum of colcium and magnesium in epm.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (A1), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁶), reported here as 0.00 except as shown.

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Surceau of Reclamation (USBR); United States Geological Survey, Quality of Water Branch (USPMS); United States Public Health Service (USPHS), Son Bernardino Country Flood Control District (SBCFCD); Metropolitan Water District of Southern California (WWD), Las Angeles Mater and Power (LADWP); City of Lang Beach, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Lobaratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5) SAH JOAQUIN RIVER AT GARWOOD BRIDGE (STA. 101) ANALYSES OF SURFACE WATER

	Analyzed by 1		USGS												
4				1 1											
	Hordness bid - Coliform os CoCO ₃ Ity MPN/ml Total N.C. nppm		Median 1300	Y7000. Minimum	š		_								
Tur-	bid - (†y In ppm		13	95	35	8	20	8	20	9	2	-7	10	#	
	N C D D D D D D D D D D D D D D D D D D		130	17	56	91	39	Φ0	27	53	0	8	∄	34	
	Hordr as Co Total Ppm		586	67	100	121	131	53	ाटा	111	149	179	160	о п	
0.	sod -		53	37	26	<u>S</u>	7	<u>9</u>	53	53	53	55	53	25	
Totol	solved solids in ppm		719°	1196	260	286	275	392T	301	291	381 [£] 375 ⁸	#26e	410e	286	
	Other constituents						PO ₄ 0.40				PO ₄ 1.1				
	Silica (SiO ₂)						গ্ৰ				9.5				
lion	Ę		7:0	0.3	0.3	0.2	0:0	0.0	0:1	0.1	0.2	0.1	0.1	0.2	
million ber mil	Fluo- ride (F)						0.2				0.1				
ports per million equivolents per million	Ni- trote (NO ₃)						0.0				2.9				
po	Chio- ride (Ci)		237	19 0.54	54	2.17	79	30	2.54	86	2.99	3.70	3.33	79	
. Ut	Sul - fors (SO ₄)						32 0.67				25 0.46				
constituents	Bicor- bonote (HCO ₃)		31.50	61	1:48	92 1.51	1.84	0.90	1.88	107	204 3.34	194 3.18	2.31	93	
	Carbon- oie (CO ₃)		0.0	0.0	0.0	0.0	0.0	00.0	0.0	0.0	0.0	0.00	0 000	0 0	
Minerol	Potos- Sium (K)						3.8	_			6.8				
	Sodium (No)		151	0.78	2.52	56	2.18	250	63	60	3.61	1.31	3.65	2.39	
	Magne- sium (Mg)						1.22				1.23				
	Calcium (Co)		5.72°	1.33°	2.00°	2.41c	1.40	1.06°	2.420	2.35°	35	3.58°	3.20°	2,20°c	
	Ę		7.6	6.9	7.2	7.6	7.6	7.2	7.4	7.2	7.9	7.9	7.5	7.3	
Specific	conductance (micrombos at 25°C)		1270	211	0917	906	8877	252	531	514	678	806	725	505	
	15		19	19	85	101	139	104	74	94	†9	76	88	91	
	Dissolved oxygen ppm %Sc		8.0	7.2	9.5	9.6	0.51	9.6	0.9	0.4	5.4	8.2	8.7	8.2	
	Ten in of		91	54	54	₫	73	29	61	72	92	72	61	75	
	Discharge Temp in ofs in of	Tidal													
	Dote and time compled P.S.T.	1962	1/11	2/15	3/8	1215	5/7	6/5	7/9	8/2 0830	9/5	10/2	11/4	12/5	

o Field pH.

b Loborotory pH.

c. Sum of colcium and magnesium in spm. d. s. copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr *5), reported here as 0.0 except as shown. c Sum of colcium and magnesium in epm.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Magnetic (SBCFCD); Metropolitan Water District of Southern Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER NEAR GRAYSON (STA. NO. 26)

		Anolyzed by 1	uses											-		
	-	bid - Coliform		Median 620. Maximum	7000. Minimum 23.											
	Tur-	- pid u		N	8	017	70	35	8	0	8	15	15		9	
		S C Z Z		149	196	35	80 77	134	17	%	69	63	1/2		159	
				346	380	100	588	275	62	250	218	250	249		371	
	Par-	e od –		26	59	53		58	57	26	56	55	59		55	
	Total	solids in ppm						785				583				
		Other constituents						POl, 0.55				PO _{l, 1.1}				
		(SiO ₂)						17			-	ଯା				
	Hion	Boron (B)		1.0	1.2	7.0	0.2	0.5	0.0	0.3	7.0	0.3	0.3		9.0	
million	per million	Fluo- ride (F)						0.2				0.3				
151	equivalents	rrote (NO ₃)						2.6				0.03				
٥	equiv	Chio- ride (CI)		253	292	53	220 6.21	232	39	158	161	158	208		282 7.96	
9	- 1	Sul - fote (SO ₄)						3.64				2.23				
0000		Bicor- bonote (HCO _S)		240 3.93	3.67	1.29	168	172 2.82	0.90	151	3.05	3.13	3.51		258	
Moreof	- 1	Corbon- Ote (CO ₃)		0.00	0.00	0.0	0.00	0.0	0.00	0.00	000	0.00	0.00		0000	
2		Potos- sium (K)						4.0 0.10				5.6				
		Sodium (No)		20th 8.87	252	52 20	157	180 7.83	34	127	129	5.52	168		9.22	
		Mogne- sium (Mg)						33				24				
		Coleium (Co)		26.9	<u>09°L</u>	2,00	5.72	2.79	1.24	011-1	1.35°	2.40	9 66° h		7.42	
		°Ę.	_	7.9	7.8	7.2	7.9	7.4	7.2	8.0	7.6	7.1	0.8		7.9	
	Specific	conductonce (m.crombos at 25°C)		1,600	1,820	1,52	1,350	1,320	280	1666	166	1,020	1,190		1,720	
				58	65	82	52	83	79	92	79	111	62	ď.	74	
		Oraygen ppm %So		6.4	9.9	8.7	8.41	7.4	7.3	4.9	6.5	9.6	0.9	sample collected	7.9	
		Te and and and and and and and and and and		74	52	54	29	7.1	67	76	79	1/2	62	mple co	55	
		Dischorge Tamp		1468	455	3,890	780	825	1,950	950	760	475	425	№ зв.	225	
		sampled P.S.T.	1962	01/1 0111	2/7	3/9	1,19	5/9	6/7	7/3	8/13 1315	9/8	10/18	n/	12/10	

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b Loborotory pH

c Sum of colcium and magnesium in epm.

c. Sum of colcium and magnesium in opm.

d. Iran (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as 0.00 except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, ar United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USSS); United States Department of the Interior, Survey of Reclamation (USBR); United States Geological Survey, Quality of Water Branch (USPHS); Son Bernardina County Flood
Control District (SBCFCD); Metropolition Water District of Southern California (WMD); Los Angeles Mater and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

ANALYSES OF SUPFACE WATER CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT HILLS FERRY BRIDGE (STA. No. 25b)

_	_																
		Analyzed by i	USGS														
	-	bid - Coliform	Median	180. Maximum 7000.	Minimum 6.2												
	1 1 1 1	- piq		20	<u>۾</u>	35	8	8	15	8	30	01	8	25	15		
		Hordness oc CaCO ₃		92	141	97	36	124	28	63	99	70	59	93	147		
				272	301	239	385	237	68	155	202	506	180	276	314		
	Q.	gad -		58	59	59	9	57	26	58	56	57	58	59	59		
	Total	solved solids in ppm						299				573					
		Other constituents						PO _{1, 0.35}				PO ₁ 0.40					
		Silica (SiO ₂)						더				124					
	million	Baron (B)		0.8	1.0	1.2	1.6	0.2	0.0	0.1	0.3	0.2	0.2	0.5	9.0		
million	per mit	Fluo- ride (F)						0.01				0.2				-	
parts per million	ı	trate (NO ₃)						2.5				3.6					
od	aquivalents	Chia- ride (CI)		198 5.59	233 6.57	165	351	194	1.47	3.50	150	162	143	226 6.38	27 ⁴ 7.73		
	Ξ	Sut - fate (SO ₄)		3.44	232	182 3.79	322	3.12	31	81	2.04	103	1.77	3.08	196		
9,000	STITUENTS	Bicar- banate (HCO ₃)		3.59	3.20	173 2.84	182 2.98	138	08.0	1 E	2.72	166 2.72	148	3.65	3.34		
1	- 1	Carbon- ofe (CO ₃)		0.0	000	0000	000	0.00	000	0.00	000	0.0	0.00	0000	000		
Mineral	MID	Potos- Sum (K)						3.0				3.2					
		Sodium (No)		172	8.70	158	264	87.9	40 1.74	1.31	120 5.02	5.52	17.8	18tr 8.00	908 8.96		
		Mogna- sum (Mg)						28				23				· .	
		(Ca)		5.44	6.02	<u>87.4</u>	7.71	48	1.36	3.11	10.4	45	3.59 c	5.52	6.28		
		-¥		8.1	7.5	0.8	4.0	8.1	7.6	7.7	7.8	8.1	8.1	8,0	7.9		
	Specific	(micromhos at 25°C)		1,300	1,500	1,180	1,910	1,160	322	762	917	982	648	1,340	1,610		
		1.5		103	%	8	īī	108	77	93	83	113	108	8	103		
		Dissolved oxygen ppm %Sc		12.0	7.6	10°4	10.2	10.4	9.8	0.8	7.0	9.6	8.6	8.5	7.6		
		To or		87	25	59	19	79	7	7/	75	92	69	61	54		
		Oischorge Tamp in cfs in OF		094	350	2,810	770	397	2,040	550	379	308	315	560	82		
		ond time sompled P.S.T.	1962	1/11	2/8	3/1	4/5	5/1	6/5 1130	1/3	8/9 0850	9/7	10/4	12/8	12/6 1215		

_280-

o Freld pH.

b Laboratary pH.

Sum or caccommon regions from the propert (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown. Sum of calcium and magnesium in epm.

Determined by addition of analyzed constituents. e Derived from conductivity vs TDS curves.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau af Reclamation (USBR); United States Public Health Service (USPHS); San Bernardine County Flood Cartell District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

		Analyzed by i		er.									
-		And	_	USBR									
		oliform MPN/ml											
	Tur	bid - C											
		Hordness bid - Collform os CoCO ₃ 15y MPN/ml	200										
-		HOH	E 64										
-	-	1 1 E											
-	1010	solved solved	9.		272	88	136	801	126	216	750	236	156
		Other constituents											
		Silico (SiO.)											
	llion	Boron Silico											
(q)	per m	Fluo-	(F)										
STA. 28b)	equivolents per million	Ni-	(NO3)										
TNIO	equivo	Chlo- ride											
RSEY P	Ē	Sul -	(80%)										_
ER AT JE	constituents	Bicar - bonats	(HCO ₃)						_				
SAN JOAQUIN RIVER AT JERSEY POINT (STA. 28b)	Mineral cont	Corbon-	(co ₃)										
SAN JOAC	Mine	Potos-	(K)										
		Sodium											
		Magns-	(Mg)										
		Coleium Magns-	9										
-													
		Oissolved conductones pH oxygen (micromhos pH			755	318	175	154	189	317	[‡] 05	157	83
		lved gen	%Sat										
			mod										
-		F or			52	12		99	72	72	72	22	61
		Dischorge Temp in cfs in oF		Tidal									
		Dote ond time	P.S.T.	1962	2/15 1015	3/12	4/17	5/15	6/19	7/17	8/1 ⁴ 0905	9/17	10/17

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b Loboratory pH.

c Sum of calcium and magnesium in epm.

c Sum of calcium and magnesium in epm. I Iron (Fe), olumnum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as 0.0 except as shown.

e Derived from canductivity vs TDS curves

Determined by addition of analyzed constituents.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Survey and Power (LADWP); United States Public Health Service (USPHS); Son Bernardino Caunty Flood Control District (SBCFCD); Metropalitan Water District of Southern California (MWD); Las Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Divisian of Laboratories, or United States Public Health Service.

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CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT MAZE ROAD BRIDGE (STA. NO. 26a)

	Anolyzed by 1	USGS														
	s bid- Coliformh 3 liy MPN/mi		230.	Minimum 23.												
	- Page		9	15	04	35	25	25	15	25	8	9		٥ı		
	SON Ng		130	164	97	73	101	23	89	62	72	50		14		
			306	334	89	170	237	72	215	208	306	147		7	 	
	1000 1000 1000 1000		23	57	64	54	54	51	54	55	54	96		52		
Totol	dis- solved solids in ppm						619				533					
	Other constituents						PO1, 0.80				PO1, 0.5					
	Sifica (SiO ₂)						2				27					
lion	6_		0.7	6.0	0.0	7.0	0.5	0.0	0.2	7.0	0.2	0.2		0.1		
millio Der mi	Fluo- ride (F)						0.0				0.2					
parts per million	rote (NOs)						4.5 0.07				1.2					
pod	Chlo- ride (C1)		239	278 7.8#	00.90	3.44	194	1.30	167	196	172	121		86 2.43	 	
Ē.	Sul - fote (SO ₄)						2.06				62 1.39					
constituents	Bicor- bonote (HCO ₃)		3.52	3.39	64 1.05	118	166	90.0	154	182 2.98	163 2,67	1.93		78		
Mineral co	Corbon- o1e (CO ₃)		0.0	000	000	000	0.00	000	000	000	0.00	000		000		
Mine	Potos- sium (K)						0.12				0.11					
	Sodium (No)		186 8.09	200	30	3.96	129	34	5.09	130	112	3.78		56		
	Mogne- sium (Mg)						27 20 20			- 1,12	22 1.T				 	1
	Colcium (Co)		6.12	89*9	1.36	3.40	51 2.54	1.44	4.30	4.56	2.35	2.94		c 25.25	 	
	o F		7-7	7.7	7.3	7.7	7.4	7.2	7.6	7.7	7.5	7.8		7.5	 	
Specific	conductonce (micromhos of 25°C)		1,400	1,590	287	764	1,050	305	959	1,030	945	669		527		
			19	148	%	68	91	70	88	8	93	57	eq.	7/2		
	Dissolved oxygen		7.7	5.3	9.5	7.5	8.0	6.4	7.4	7-5	8,1	5.5	collected.	8.0		
	Temp in OF		84	52	52	99	7	89	92	78	72	29	sample co	54		
	Discharge Temp		1	0 3 0	1	1	1	1	1	1	1		No sa	1		
	Dote ond time sompled P S.T	1962	1/19	2/7	3/9	1700	5/10	0060	7/3	8/13	9/8	10/18	717	12/10		o Field of

b Laboratory pH

c Sum of calcium and magnesium in epm.
d Iron (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*6), reported here as 0.00 except as shown. Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

h Annual median and range, respectively. Colculoted from analyses of duplicate manthly samples made by California Department of Public Health, Division of Labaratories, or United States Public Health Service (USPHS); Son Bernordino County Flood Control District (SBCFCD); Material States District of Southern California (MMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Los Angeles Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER NEAR MENDOTA (STA. NO. 25)

		Anglyzed	ву 1	USGS												
		Coliform	os CoCO ₃ Ity MPN/mi by i Tatol N.C. ppm ppm	Median	62. Maxdamum 7000.	Minimum 0.62										
		- Pig	T P P P		15	10	30	85	30	9	35	20	017	8	15	15
		8 8 U	SON NEW		ಹೆ	977	%	17	37	32	15	41	15	44	18	9
					205	292	8	122	102	89	92	134	92	162	203	183
		Pari	- pos		51	53	20	52	8,1	148	917	20	20	54	55	52
	1000	0.0	solids in ppm						239				224			
			Other constituents						Po _{1, 0.30}				Po _{l, 0.20}			
	,	-	(SiOg)						웨				웨			
	uo li		Boron (B)		0.3	9.5	0.2	1.8	ं।	0.0	0:1	0.1	1 0.1	0.5	7.0	5.0
		_	Fluo- ride (F)						0.0				0.0			
מים סאיני וודאפון וודער והשתי היים כיואי יים כי		s danso and a	trats (NO ₃)						0.0				0.0			
TOTAL TOTAL		200	Chlo- ride (CI)		11.00	218 6.15	1.24	2.76	26 1.58	32	35	2.65	1.55	3.44	154	3.75
Warran Wa	<u>e</u>		Sul - fote (SO ₄)						1,5				28 0.58			
	constituents		Bicar- bonate (HCO ₃)		148	178	88 1.44	91	1.29	70	74	113	1.54	2.36	2.49	2.28
TO ACARC	Mineral con		Corbon- of (CO ₃)		0.0	000	000	0.0	000	000	0.0	0.0	000	000	000	0000
5	Min		Potos- sium (X)						2.1				1.9			_
			Sodium (No)		4.31	149 641	1.96	60 2.61	1.91	38	30	62 2.70	1.91	3.74	112	3.92
			Mogne- sium (Mg)						0.89				0.84			
			Calcium (Ca)		0° 1	5.84	1.96	2.43	23	1.78	1.52	2.68	8 8	3.25	90.1	3.66
		٥	4		8.1	8.0	7.7	7.7	7.8	7.5	7.7	7.8	8.0	8.2	8.2	7.8
		Spacific	(micromhos of 25°C)		898	1,260	914	525	777	355	289	558	391	T30	908	819
	Dischorge Temp Dissolved condu				8	112	8	98	98	%	92	66	105	103	130	109
			ррш		12.7	12.7	10.7	9.6	9.0	8.7	7.5	8.3	8.9	9.6	12.6	11.8
		in of		94	0,	94	62	89	89	&	73	75	19	79	23	
		Orschorge	in of s		%	77	1	346	345	16.4	901	644	328	125	1,8	131
			sompled P.S.T.	1962	1/11	2/7	3/1 0745	1/5 0845	5/1 1510	6/5	2,1/3	8/8 0905	9/7	10/5	1200	12/7

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Field pH.

b Loboratory pH.

c Sum of calcium and magnesium in epm.

c. Sum of calctum and magnestum in epm.

d. Iran (Fe), aluminum (A1), arsain (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexovalent chromium (Cr +5), reparted here as 0.00 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Grovimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (WWD); Las Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Language Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

	_	D													
		Analyzed by 1		USBR											
		bid - Coliform 17 MPN/ml													
		- pig													
		Hardness to CoCO ₃ n													
								_							
	(Sod -		9	55	59	75	22	53	53	55	8	95	29	
	Tatol	solved solids in ppm		1,220	923	1,572	1,056	178	842	88	934	2,040	1,064	1,258	
İ		Other constituents													
		Slico (SiO ₂)			-										
	lion	E													
1. 30a)	per million	Fluo- ride (F)													
VER (STA	ports per million equivalents per mit			3.7	2.5	3.1	1.86	1.6	4.3	1.2	1.9	1.9	2.5	2.5	
RCED RI	Bquiva	Chlo- rids (C!)		320	182	433	315	22	237	540	264	657	293	101	
ABOVE ME	E .	Sul - fote (SO ₄)		588	217	†C-1	228	30	167	174	168	244	500	256	
RIVER /	constituents	Bicor- bonote (HCO ₃)		569	151	195	171	38	175	185	300	2224	232	194	
SAN JOAQUIN RIVER ABOVE MERCED RIVER (STA. 308)	Mineral cor	Corbon- ats (CO ₃)		0.0	0.0	0:0	0.0	0.0	0.0	0:0	0.0	0:0	0.0	0:0	
SAN	Min	Potos KK)		5.9	3.1	4.3	4.3	1.6	4.3	3.5	4.7	3.9	4.7	3.1	
		Sodium (No)		276	146	331	192	32	153	164	177_	₁ 23	203	258	
		Mogne- Sium (Mg)		52	34	1 9	24	6.8	34	2	38	986	20	8	
		Calcium (Co)		23	84	76	17	14	8	57	63	107	54	73	
		Ŧ		7.9	8,0	7.2	7.7	7.4	7.4	7.7	7.6	7.0	8.0	7.9	
	Spanific	conductance (micromhos at 25°C)		1,896	1,218	2,403	1,694	306	1,352	1,424	1,507	2,889	1,500	2,091	
														.	
		Orygen oxygen ppm %So													
		Ts or o o F		#	5/4	22	79	75	62	62	73	3	59	23	
		Discharge Temp													
		Dots ond tims sompled P.S.T	1962	1/15	3/14	4/16	5/15	6/14	7/16	8/15	9/17	10/16	11/15	12/13	
	-									201					

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b Loborotory pH.

c Sum of colcium and magnesium in epm.

d Iron (Fe), oluminum (A1), argent (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves

Determined by oddition of analyzed constituents.

Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

ANALYSES OF SURFACE WATER

TABLE B-14

CEMTRAL VALLEY REGION (NO. 5) SAN JOAQUIN RIVER AT MOSSDALE BRIDGE (STA. 102)

		Anolyzed by 1			USGS												
		bid - Coliform			Median 230.	7000. Minimum	·										
	Tur	bid - hit maga n			10	22	35	15	15	30	2	15	15	6	00	v^	
		Hordness os CoCOs	N C.		129	16	37	22	25	30	88	83	69	77	51	Ť.	
		Hord O C	Tatal		586	82	116	168	87	25	755 ft	231	208	180	159	8	
	0	Cent Cod L			53	22	53	53	911	51	53	53	52	25	55	15	
		solved solids			719°	201	292°	410e	198f	130°	554°	≥64°	518 ^f 5228	433°	408°	261	
		Other constituents							PO ₄ 0.15				PO ₄ 0.15				
		Silica	0.0 0.0						15				121				
	million	Boron			0.4	6.3	0. t	7.0	0:0	01	6	0.2	0.2	0.1	0.1	0:1	
a III io	per a	Fluo-							0.0				0.1				
ports per million	equivolents	NI -	(NO ₃)						0.0				1.3				
	equiv	Chio-	(0)		227	1.16	64 1.81	3.33	1.58	31 0.87	185	3.02	160	3.44	3.44	73	
	c i	Sul -							23				65				
	netituent	Bicor -	(HCO ₃)		3.13	80	36	1.95	1.23	51 0.84	166	181	174 2.85	166	132	81 1•33	
	Mineral canetituents	Corbon	(CO)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.0	0.0	0 8	
	ž	Potos-	Œ.						2.4				3.8				
		Sodium	(ON)		151	38	2.61	3.74	35	1.09	3.05	5.31	108	3.87	3.87	2° 0%	
		Mogne-	(Mg)					·	9.4				20 1.66				
		Colcium	(0)		5.72c	1.63°	2.32	3.36°	21 1.05	1.04°	1.490	4.62°	2.50	3.60°	3.19°	2.00	
	ed	IO H d	- 1		7.5	8.1	7.3	7.6	7.5	7.7	7.7	7.7	7.9	7:5	7.3	7:7	
	Specific	(micromhos			1270	356	516	724	357	230	979	766	904	492	720	794	
			%Sot		83	61	833	971	132	76	132	172	126	%	83	8	
		Dissolved	n mdd		9.7	6.7	8.9	10.9	11.4	9.3	11.2	14.3	10.8	6.9	8.3	8.	
		Tegen For			93	52	54	29	73	179	75	77	1/2	<i>L</i> 9	8	25	
		Oscnorge Temp		Tidal													
		ond time compled	P.S.T.	1962	1/10	2/13	3/7	1305	5/7	6/5	7/10	8/8 1230	9/6 1035	10/8	11/14	1425	

b Loboratory pH

Sum of colcium and magnessum in Apm. Iron (Pb.), manganese (Mn.), zinc (Zn.), and hexavolent chromium (Cr.*6), reported here as 0.00 except as shown. Iron (Fe.), aluminum (A1), arsenic (As.), capper (Cu.), lead (Pb.), manganese (Mn.), zinc (Zn.), and hexavolent chromium (A1), arsenic (As.), capper (Cu.), lead (Pb.), manganese (Mn.), zinc (Zn.), and hexavolent chromium (A1), arsenic (As.), capper (Cu.), lead (Pb.), manganese (Mn.), zinc (Zn.), and hexavolent chromium (Cr.*6), reported here as a constant of the constant of

Derived from conductivity vs TDS curves

Determined by oddition of analyzed constituents.

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health (Service (USPHS); Son Bernardino County Flood Control District (SBCFCD); Metropoliton Water District (SBCFCD); Metropoliton Water District (SBCFCD); Metropoliton Water Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratores, Inc. (TTL); or Colifornia Department of Water Resources (DWR); as indicated.

a Field pH.

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT PAITTERSON BRIDGE (STA. NO. 27a)

		Anolyzed by i		USGS						·								
		bid - Coliform		Madical	7000. Maximum	Minimum 62.												
		Tur- bid- iny	ì		25	8	45	30	25	25	6	25	15	15	2	91		
		Hordness oe CoCO ₃	N dd		135	167	#	101	125	9	- 18	95	33	31	78	140		
			Totol		342	359	136	220	792	35	961	500	176	174	270	आह		
		Sod -			28	9	57	57	09	84	28	57	28	59	29	59		
	- 0 - 0 - 1	solved solids	ngg ni		516				795				505	067				
		Athen and the state of the stat	- 1						PO1, 0.45				Po ₁ 0.40					
		Silico	(\$0.02)		17				티				23					
7a)	n de il i	Boron			0	11	0.5	0 8	0.5	0.0	0.0	0.2	0.2	0.2	7.0	1.0		
NO. 2	million see million	Fluo-			0.5				0.2				0.0					
SAN JOAQUIN RIVER AT PATTERSON BRIDGE (STA. NO. 27a)	ports per million		(NO3)		5.3				0.0				200					
N BRED		Chlo-	(3)		248	299	86	167	238	25 0.62	153	151	136 3.84	3.67	221 6.23	272 7.67		
ATTERS	r.	Sul -	(\$0\$)		231 4.81			3.37	3.56				986					
TER AT F	constituents	Bicar	(HCO ₃)		252	23tr 3.8tr	11.84	2.38	169 2.77	31	136	176 2.88	167 2.74	174 2.85	234 3.84	3.44		
QUIN RIV	Mineral con	Corban-	(00)		0.0	000	000	0.00	000	000	0.00	000	000	000	0.00	000		
SAN JOA	M	Potos-	(X)		0.10				0.10				3.5					
		Sodium	(D.N.)		220 9.57	250	83 3.61	132 5.74	186 8.09	15	122	5.31	77.36	117	180 7.83	208	-	
		Magne-	(Mg)		3.65				30				18					
		Calcium	(00)		3.19	7.18	2.72	04-4	2.84	07.0	3.80	00.4	700	3.49	5.40	£.54		
		o F			7.8	7.7	7.3	7.8	7.6	7.6	7.5	8.0	7.7	8.0	8.1	00		
		Conductance (micromhos			1,600	1,820	959	1,080	1,340	148	931	046	865	820	1,340	1,570		
			%Sof		₫	7	88	105	104	66	お	89	19	83	58	19		
		Dissolved	Edd		6.6	0.0	10.1	9.5	8.6	9.3	8.1	5.6	5.8	7.7	5.8	7.1		
		Temp			94	52	84	69	69	99	7/2	78	72	67	9	55		
		Oischorge Temp							1 1 1	8 8	1	1 1		-		i		
		Dote and time sompled	P.S.T	1962	1/18	2/8	3/1	1400	5/1 1015	6/5	7/3	8/9	9/6	10/4	10/8	12/6 1115		

-29/-

b Loboratary pH.

c. Sum of calcium and magnesium in epm.

Iron (Example 2), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Grovimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (UJGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United Stotes Public Health Service.

TABLE B-14

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SAN JOAGHIN RIVER AT PATTERSON WATER COMPANY (STA

			Anolyzed by i		USBR								•			
		-	bid - Coliform ⁿ ity MPN/ml In ppm											-		
		Tur	- pid - pid waa u													
			N CON													
		Per	sad -		₹5	20	52	Ž	51	20	53	51	26	26	55	57
		Total	salved solids in ppm		968	286	11911	856	248	132	576	719	622	764	916	1,010
			Other constituents													
			Silica (SiO ₂)													
. 27a)	Ou	per million	Boron (B)													
(STA	r milli	per n	Fluo- ride (F)													
COMPAIN	ports per million	equivolents	ni- trote (NO ₃)		3.1	9.0	1.2	2.5	0.62	0.6	1.9	1.9	1.9	3.7	3.7	0:5
SAN JOAQUIN RIVER AT PATTERSON WATER COMPANY (STA. 27a)	ā	equive	Chlo- ride (CI)		248	145	89	213	79	32	147	149	168	131	236	294
ATTERSO		u .	Sul - fats (SO ₄)		219	09	103	200	64	22	108	103	107	8	164	212
TR AT P	4:4:4	constituents	Bicar- bonate (HCO ₃)		233	7	8	168	58	14.3	150	167	168	116	217	194
UIN RIVE	Money	- 1	Carbon- ote (CO ₃)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0:0	0.0	0.0	0.0	0.0
AN JOAG	Ž	Σ	Potas- sium (K)		5.5	2.7	2.3	2.7	2.3	1.6	3.1	3.1	3.1	2.0	4.3	3.1
co			Sodium (No)		181	211	72	157	27	23	101	88	123	35	164	198
			Mogne- sium (Mg)		3	9.4	18	34	ฤ	5.4	ৱ	23	12	23	34	3
			Calcium (Ca)		199	50	53	88	18	10	43	777	64	31	59	65
			ī		7.8	6.9	7.9	7.2	7.5	7.5	0.0	7.4	7.0	7.0	7.4	7.7
		Specific	conductonce (micromhoe of 25°C)		1,508	392	641	1,338	415	218	897	83	1,030	738	1,289	1,681
			gen %Sat													
			Oisso Osy PPM													
			Tange in of		74	55	57	2	179	79	78	79	73	8	59	23
			Dischorge Tamp in cfs in of													
			ond tims sampled P.S.T.	1962	1/15	2/14	3/14	4/16 1230	5/15 11 ⁴ 5	6/14	7/16	8/15 1230	9/17	10/16	11/15 1155	1145

o Field pH

2

b Laboratory pH.

c. Sum of calcium and magnesium in epm.

c. Sum of calcum and magnesium in epm.

d. Iron (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁶), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of analyzed constituents. e Derived from conductivity vs TDS curves.

g Grovimetric determination.

h Annuol median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laborataries, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District (SBCFCD); Metropolitan Water District (SBCFCD); Metropolitan Water District (SBCFCD); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER ABOVE BIFURCATION WITH SALT SLOUGH (STA. 111b)

	Anolyzed by i		USBR													
	s bid - Coliformh s ity MPN/mi															
	D - Did															
	20 Z															
	D .E		87	4 29	33	20	8 20	877	Z+1 2.	8 49	0:	2 26	†19 †1	69 9	 	4
Toto	solved solved in ppm		265	154	194	ħ19	849	266	t 72	248	520	812	189	926		
	Other constituents															
	Silico (SiO _E)							_							 	
Ilion	5															
million per million	Fluo- ride (F)															
ports per million volente per mill	rrote (NO ₃)		9.0	2.5	0.6	9.0	0.62	1.9	9.0	1.9	1.9	9.0	9.0	1.9		
ports p	Chlo- rids (C!)		175	4.9	28	165	881	162	121	143	136	7172	192	गू		
.c.	Sut - fors (SO ₄)		8/	15	19	23	99	78	59	69	61	89	57_	8		
constituents	Bicor- bonate (HCO ₃)		170	59	85	168	192	201	179	184	139	546	281	309		
Mineral con	Corbon- of (CO ₃)		0.0	0.0	0:0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17		
- N	Potos- sium (K)		3.9	2.7	2.0	2.1	5.1	5.1	3.9	2.7	1.7	3.9	3.5	3.1		
	Sodium (Na)		104	괴	8	106	द्रा	104	8	27	84	157	155	246		
	Mogne- sum (Mg)		27	3.4	8.3	12	23	8	19	8	ଷ	27	139	8		
	Calcium (Co)		21	16	8	55	58	52	145	24	84	62	#	59		
	Ĭ		8.3	7.1	8.0	4.7	7.8	7.9	7.8	7.9	7.5	7.7	7.7	8.7		
0.000	conductonce (micromhos		1776	153	259	973	1,070	066	292	885	98	1,230	1,032	1,660		
	Oissolvsd oaygen ppm %So							7								
	Te or		45	52	45	70	79	75	8	8	73	8	59	53		
	Oischorge Tamp															
	Dote sompled	1962	1/15	2/15 1405	3/14	1410 1410	5/15	6/14	7/16	8/16	9/17	10/16	11/15	12/13		1

o Field pH.

b Loborotory pH.

c. Sum at cotstum and magnessium in epim.

d. Iron (Fe), oluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁶), reported here as 0.0 except as shown. c Sum of colcium and magnesium in epm.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by Colifornia Department of Public Health, Division of Loboratories, or United States Public Health Service (USPHS); Son Bernardino Country Flood Control and Profes Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Surveau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardino Country Flood Control States (USPHS); Son Bernardino Country Flood Control States (USPHS); Carlo of Los Angeles, Department of Water and Power (LADWP); City of Los Angeles, Department of States (USPHS); Terminol Testing Laboratories, Inc. (TIL); or Colifornia Department of Water Resources (DWR); as indicated.

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CENTRAL VALLEY REGION (NO.

	_	_														
			Anolyzed by 1	USBR												
		4	bid-Coliforan													
		Tur	- bid th mgg u													
			S Z a													
		-	- pos se		33	54	22	%	33	82	2	8	39	50	31	₹£
		Tota	solids mod ni		196	108	921	100	114	56	110	152	200	78	1777	721
			Other constituents													
			Silica (SiO ₂)													
_	_	llion	Boron (B)													
. 112b	millio	per million	Fluo- ride (F)													
SAN JOAQUIN RIVER AT SAN ANDREAS LANDING (STA. 112b)	ports per million	equivolents	rrote (NO ₃)		2,5	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	3.1	9.0	0.0
AS LAMD		equiv	Chlo-ride (C!)		92	122	7.1	9.9	13	9.9	7	50	31	5.7	17	118
IN ANDRE		118 ID	Sul - fors (SO ₄)		56	8	13	15	13	9.6	15	13	13	9.6	13	179
R AT SA		constituents	Bicar- bonote (HCO ₃)		85	16.16	26	84	53	29	8	7	잃	&l	02	29
UIN RIVE		Minerol Co	Carbon- ote (CO ₃)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AN JOAQL	1	180	Potoe- Sium (K)		1.2	1.2	8.0	0.78	0.8	1.2	1.2	1.2	1.6	1,2	1.2	1,2
S			Sodium (No)		22	8.1	6.9	9.5	21	9.5	13	19	72	4.6	15	179
			Mogne- Sium (Mg)		10	6.7	5.9	6,3	9.9	5.9	او	8.3	6.5	8.3	9	6.5
			Colcium (Co)		8	의	12	의	의	11	15	21	88	10	13	13
			F 0		7.3	7.1	7.2	7.3	7.2	7.4	7.7	7.2	7.6	7.1	7.7	2.
		Specific	conductonce (micromhos of 25°C)		586	143	141	143	165	158	173	500	265	89	196	182
			Oissolve d oxygen ppm %Sot													
			Oisso oxy ppm													
			Ten in of		917	20	51	62	99	202	72	77	70	179	99	8
			Discharge Tamp in cfs in oF	ridal												
			ond time sompled P.S.T.	1962	1/18	2/12	3/12	14/16 1435	5/17	6/18	7/16	8/21	9/20	10/15	11/13	12/26
											25					

o Field pH.

b Loborotory pH.

c Sum of colcium and magnesium in epm.

c Sum of colcium and magnessium in epin.

d Iran (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Un), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as 0.0 except as shawn.

Derived from conductivity vs TDS curves

¹ Determined by addition of analyzed constituents.

g Gravimetric determination.

³⁰⁵⁰⁵⁻E-H M-62 2:0 JR h Annual median and raspectively. Colculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Labaratories, or United States Benievely, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR), United States Benievely, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR), United States States States States States States Department of Water and Power (LADWP), City of Los Angeles, Department of Water Branch (Labert), City of Long Beach, Department of Water Resources (DWR), as indicated

ANALYSES OF SURFACE WATER CENTRAL VALLEY REGION (NO. 5) TABLE B-14

SAN JOAQUIN RIVER NEAR VERNALIS (STA. NO. 27)

_																
	Anolyzed by 1		uscs													
	bid - Coliformh		Madian	620. Maximum	Minimum 23.											
	pid -			10	15	06	30	20	15	20	20	35	15	10	15	
	Hardness os CoCO ₃	D E dd		%	344	31	57	32	6	68	92	68	58	52	88	
		Total N.C. ppm ppm		560	304	102	148	お	42	188	22h	212	506	160	78	
	Sod -			55	26	20	53	64	47	- 55	54	51	99	54	52	
Totai	solids	in pp.					_	224				526				
								ABS 0.0 PO4 0.40				ABS 0.0, As 0.01, PO4, 0.40				
	Silico	(2 ₀ (S)						81				27				
ion	5	<u>(8</u>		0.5	0.7	0.3	0.3	0.1	0.0	0.2	0.2	0:0	0.2	0.2	0.2	
per million	Fluo-	(F)						0.01				0.1				
1 6	ż	(NO3)						1.2	_		-	0.08				
ports pr	Chlo-	(12)		186	232	54 1.52	3.61	61	23	3.81	178	164	161	3.44	64	
c s	Sul -	(\$0\$)						31				63				
constituents	Bicor-	(HCO ₃)		3.28	3.20	1.41	1111	76	99°0	146 2.39	180 2.95	176 2,88	181 2.97	132	68	
Mineral con	Carbon-	(CO ₃)		000	000	000	000	000	000	000	0.0	0.00	000	0.00	0.0	
Min	Potos-							2.1				4.2 0.11				
	Sodium	(0 N)		144	180 7.83	7.00	3.31	1.83	17 0.74	94	119 5.18	106	252	3.83	42 1.83	
	-augur	(Mg)						8.9 0.73				23 1.89				
	Calcium Magne-	(00)		5.19	20°9	2.04	2.96	23	- B40	3.76	1,148 c	47	4.12	3.20	1.68	
	٠ <u>٦</u>			8.0	7.5	7.8	7.6	7.6	7.4	7.8	7.5	7.8	0.8	7.8	9.7	
Spacific	conductonce	0 - 62 - 10		1,190	1,400	427	653	389	169	802	296	918	912	727	399	
		%Sot		76	78	88	103	96	103	93	105	72	78	81	82	
	Dissolved	mdd		11.0	B.6	10.0	9.5	9*3	9.7	8.0	8.9	6.7	7.2	8.1	8.7	
	Temp in oF			49	52	64	89	63	99	73	75	99	29	9	55	
	Dischorge Temp			760	740	6,862	2,170	2,261	5,774	1,351	900	700	1,000	1,250	2,200	
	Oate ond time	P.S.T	1962	1/11	2/8	3/1 1245	1500	5/1 0835	6/5 1415	7/3	8/10 0011	9/6	10/4	11/8	12/6	

o Field pH.

b Laboratory pH.

Sum of colcium and magnesium in epm.

c sum or calcium and magnessium in Epin.

d Iron (Fe), aluminum (AI), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculoted from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Benardina Caunty Flood Control District (SBCFCD); Metropolitan Water District of Southern California (WMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Water Resources (DWR); or Indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); os indicated.

ANALYSES OF SURFACE WATER CENTRAL VALLEY REGION (NO. 5) TABLE B-14

NA TOACHTY DITTED NEAD WEDNATTS (SHA NO

	_	_																
			Anoiyzed by i	nses														
		£	bid - Coliformility MPN/mi															
		Tur	- bid - tt															
			Hordness as CoCO ₃ Tatal N.C. ppm ppm		127	93	111	135	63	-	16	8	91	8	-1	32	59	ਲੋ
			1 1		700 700 700 700 700 700 700 700 700 700	792	576	238	174	†9	78	104	69	8	109	129	154	8
		Par	sod –		53	95	55	55	52	£43	149	51	97	1,7	20	79	7.	51
	4	Totol	solved solids in ppm		750	736	767	840	200	188	227	286	184	228	279	337	421	504
			Other canstituents		Fe 0.06	Fe 0.06	Fe 0.06		Fe 0.09	Fe 0.36	Fe 0.19	Fe 0,08	Fe 0.09	Fe 0.06	Fe 0.03		Fe 0.01	Fe 0.13
		ĺ	Silica (SiO ₂)		취	18	81	18	81	17	316	গ্ৰ	Tī	엙	웹	윕	গ	য়
		million	Boron (B)		7.0	9.0	9.0	0°.7	9.0	0.2	6.9	0.3	ं	0.2	0.2	0.2	6.3	7.0
0.27)	million	per mi	Fiuo- ride (F)		0.3	0.3	0.3	0.2	0.3	0.1	0.0	0.2	0.03	0.2	0.2	0.2	0.2	0.0
SAN JOAQUIN RIVER NEAR VERNALIS (STA. NO. 27)	parts per million	equivalents	rrote (NO ₃)		0.10	2.0	5.1 0.08	3.5	0.07	2.6	0.0	2.2	0.0	1.6	1.4	2.1	3.9	80.0
ERNALIS		adoi	Chla- ride (CI)		6.35	204	210	24.3 6.86	3.55	29 0.82	1.24	1.64	30 0.85	1.27	63 1.78	2.23	3.07	3.95
NEAR			Sul - fats (SO ₄)		2.46	133 2.TT	2.89	3.52	8.0	0.52	37.0	57	31 0.65	44 0.92	1.23	1.42	120	1.85
N RIVER		constituents	Bicar- bonate (HCO ₃)		3.15	3.41	3.25	3.36	22.21	1.11	76	91	1.07	74	1.36	118	1.90	2.33
N JOAQUI	Manage	- 1	Carbon- ate (CO ₃)		000	0.00	0.0	000	0.0	0.00	0.00	000	0.00	0.00	0.00	0.00	0.0	0.00
SAJ	2	\$	Potos- sium (K)		0.11	8.4	5.4	5.3	7.0 0.18	3.8	2.6	0.06	0.05	1.8	0.06	2.8	3.4	0.10
			Sodium (No)		152	156	157	172 7.48	7.00	1.0	36	2.22	28	38	2018	64 2.78	3.74	4.22
			Mogne- sum (Mg)		33	30	31 2.53	31 2.57	1.58	5.8	6.8	11 0.93	7.8	0.6	13	1.18	17 17 1.38	21
			Calcium (Ca)		63 3.14	27 2.84	60 2.99	3.39	1.90	16 0.80	1.00	23	15 0.75	20 1:00	23	28	34	2.25
			E		7.8	8.1	7.8	8.2	7.2	7.1	7.1	7.5	7.2	7.3	7.6	7.5	7.1	7.1
		Specific	conductance (micromhos at 25°C)		1,260	1,220	1,260	1,380	462	360	339	6517	112	367	1,68	295	718	872
			ygen %Sol															
	-		e T e gr															
			Discharge Temp in cfs in aF															
			ond time sampled P.S.T.	1962	1/1-10	1/11-20	1/21-31	2/1-9	2/10-12	2/13-21	2/22-28	3/1-8	3/9-12	3/13-20	3/21-31	11/1-6	$^{14}/7-1^{14}$	4/15-18

b Laboratory pH

c. Sum of calcium and magnessum in epm.

c. Sum of calcium and magnesium in Epm.

d. Iron (Fe), aluminum (AI), arsanic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{*6}), reported here as 0.0 except as shown.

e Derived from conductivity vs TDS curves

Determined by addition of onalyzed constituents.

g Gravimetric determination

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardina Country Flood Control District (SBCFCD), Metropolitan Water District of Southern California (AWD), Los Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beack, Department of Beack, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR), as indicated. h Annual median and range, respectively. Colculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER NEAR VERNALLS (STA. NO. 27 continued)

		Anolyzed by 1		USGS														
		bid - Coliform																
	Ţ	- pid - chi				10				80								
		Hordness os CoCO ₃	N C.		9	 %	7 21	- 38	8	42	1 18	9 37	9 55		7 7	7 35	4 65	1 79
\vdash		L Pos	Total		50 136	- 6	107	67 84	53 92	142	50 71	50 129	53 169	54 54	50 67	711 12	51 184	50 221
	otof	solved so	E DO		3.38	238	292	186		ま	173 5	307	1	911	160	293 5	11.14	2995
	_	Other constituents			Fe 0.09	Fe 0.01				Fe 0.07				Fe 0.01	Fe 0.01	Fe 0.03		<u></u>
		Silico	(2)		13	139	81	118	77	174	17	23	81	15	17	8	18	81
-	llion	Boron	j)		0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.5	0.0	0.0	0.0	ं	0.1	0.2
million	per million	Fluo-	(F)			000	0.1	0.0		0.2	0.1	0.2	ili	0.0	0.0	0.1	0.1	0.01
ports per million	equivolents	N-1	(NO3)		0.07	3.4	2.7	2.8	2.7	2.5	2.8	3.2	3.3	0.02	0.02	0.03	3.5	9.00
ď	equive	Chlo-	(CI)		2.51	63	70	1.38	62	0.59	1.24	2.37	3.50	0.73	1.13	2.3	3.72	164
- 1	<u>_</u>	Sul -	(80%)		1.02	09.0	32	27 0.56	41 0.85	0.25	800	94.0	62	12 0.25	25	38	1.27	1.50
	constituents	Bicor	(HCO ₃)		107	1.39	105	50	1.31	41 0.67	1.07	1.84	139	45	65 1.07	100	145 2.38	173 2.84
	Mineral con	Carbon-			000	000	0.0	000	0.0	000	000	0.00	000	000	0 0	000	0.0	000
	MID	Potos-	3		3.0	2.3	0.00	2.0	2.4 0.06	1.6	2.2	2.8 0.07	3.4	1.4	1.7	2.8 0.07	3.4	0.11
		Sodium			2.78	2.00	48	34	2.18	15	34	62 2.70	3.87	18 0.78	32	2,48	3.92	105
		Mogne- Sium	(Mg)		1.21	9.2	9.6	7.1	7.8	2.3	5.1	11 0.93	18	4.3	6.0	12 0.99	19	23 1.92
		Colcium			30	23	1.35	8	1.80	13	1.00	33	38	111	17 0.85	27	42	2.50
		Ī			7.3	7.3	7.4	7.4	7.2	7.1	7.3	7.5	8.1	7.6	7.8	8,1	7.7	7.5
	Specific	conductonce (micromhos of 25°C)			795	418	1,34	324	419	162	298	541	732	187	277	164	785	934
		Dissolved oxygen	ppm %Sat															
		Dischorge Temp																
	0	ond time sompled	P.S.T	1962	4/19-20	4/21-30	5/1-5	6-9/5	5/10	5/11-13	5/14-16	5/17-31	6/1-2	6/3-14	6/15-25	6/26-30	7/1-5	J/6-16

a Field pH

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health (LADPH); San Bernardino County Flood Cannol District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated.

c Sum of colcium and magnesium in epm

Control of the contro

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves.

Gravimetric determination

h. Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

ANALYSES OF SURFACE WATER CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER NEAR VERNALLS (BIA. NO. 27 continued)

		Anolyzed by 1		USGS														
		bid - Coliform																
-	ŀ	- pid Vel Vel Vel Vel Vel Vel Vel Vel Vel Vel	1															
		N 00 N	ppm		102	83	42	7-	55	99	53	26	39	59	77	917	%	
			E dd		235	231	2231	2831	198	210	8	8	134	171	154	148	103	8
-	84	- Post			51	53	53	53	51	52	51	25	52	24	53	53	12	22
	Totol	solved solids In ppm			621	615	919	610	517	553	535	200	338	7 38	391	381	255	228
		Other constituents						Fe 0.04				Fe 0.02	Fe 0.03	Fe 0.02	Fe 0.06	Fe 0.01		
		Silico (SiO ₂)	\perp		%l	প্র	웨	띥	웨	뗐	쥖	젪	25	23	칭	70	81	91
	million	Boran (B)			0.2	0,1	읭	0.1	0.1	0.2	0.1	6.3	0.2	0.7	0.2	0.3	0.1	0.1
	Der a	2.50			0.1	0.1	0.01	0.01	0.2	0.03	0.0	0.0	0.2	0.0	000	000	000	0.2
	equivalents per mit		(COR)		3.9	5.7	6.6	5.6	0.0	3.3	0.0	0.07	- 10 0.0	4.2 0.07	3.6	2.8	20°0	3.4
	9000	3 -	\rightarrow		5.36	25.28 5.28	186	3.22	152	160	151	148	2.65	3.72	3.39	3.10	2.06	1.86
	<u></u>	Sul - fote	_		1.50	91.	63	1.42	1.27	63	63	1:12	1,3	1,27	0.85	1:12	33	31
	constituents	Bicar - bonate	E COLLY		162 2.66	180 2.95	2.95	3.05	174 2.85	3.00	179 2.93	2.88	1.90	136	2.20	2.03	3.34	1.21
	Mineral ca	Corbon-	(E)		000	0.0	000	000	000	0.0	0.0	000	0.0	0.0	000	000	000	000
	ž	Potos-	9		0.12	0.12	5.0	5.0	4.4 0.11	7,7	10.11	0.11	3.2	3.2	3.2	2.8	0.00	0.06
		Sodium (No)			5.00	124 5.39	119 5.18	120	8 1	108	4.31	102	96.8	100	82 3.57	3.35	50 2.18	1.83
		Magns- sum (Ma)	(See		1.96	1.93	24 1.95	24 1.95	1.72	1.75	1.70	1.70	1,18	17	1.23	15	0.81	0.56
		Calcium (Co)			25.74	2.69	2.59	2.59	2.25	2.45	2.30	2.30	30	2.05	37	34	1.25	24 1.20
		I a	\downarrow		7.5	7.6	7.5	7.5	7.9	8.0	4.9	T.4	7.6	7.5	7.3	7.3	7.2	7°7
		conductance (micromhos			1,030	1,010	991	766	877	919	988	876	574	156	707	671	1450	412
		Dissolved osygen	ppm 7050f	-														
		Discharge Temp in cfs in 0F																
		Oote ond time eampled	7.3.1.	1962	7/17-31	8/1-10	8/11-20	8/21-31	9/1-10	9/11-20	9/21-30	10/1-13	10/14-19	10/20-31	21-1/11	11/13-25	11/26-30	12/1-7

a Field pH

b Laborotary pH.

c. Sum of colcium and magnesium in epm.

c. Sum of coletum and magnessum in opm.

d. Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr¹⁶), reported here as 90,0 except as shown.

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laborataries, or United States Public Health Service g Gravimetric determination

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardino County Flood Courted District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Secretary Resources (DWR); as indicated.
Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER NEAR VERNALIS (STA. NO. 27 continued)

		Anolyzed by i		USGS			 ·						
		bid - Colitorm									_		
	į.	- pid											-
		Hordness as CoCO ₃	N		53	24	 			 		 	
-		F 1 6	Total		85		 			 		 	
-	٩_	solved sod -	E		5 149	9 51	 					 	
_	Toto	solve solve	ri g		212	259	 	-					
		Other conditions				Fe 0.01							
		Silico	(ZOIS)		16	77				 	-		
	lion	Boron	(E)		0.1	0.2		_					
million	per million	Fluo-			0.0	0.03							
ports per million	equivolents	- Z	(NO3)		3.2	3.2			., .				
1	equiv	Chlo-	(CO)		1.81	2.00							
	Ui S	Sul -			27 0.56	0,83							
ports per million	constituents	Bicor	(HCO ₃)		1.11	1.41							
	Minerol con	Corbon	(500)		000	000							
	Min	Potos-	(¥)		2.0	2.5							
		Sadium Potos-	(6 N)		38	2.13						 	
		Mogne-	(Mg)		8.5	11 0.91							_
		Colcium	(00)		1.00	21 1.05							
		I			7.6	7.8							
	Specific	(micromhos	;		392	1460							
		Dissolved	% So										
			Edd										
		Discharge Temp											
		ond time sompled	P S.T.	1962	12/8-16	12/17-31							

a Field pH.

b Laboratory pH.

c Sum of colcium and magnesium in epm.

Sound rediction and inagers own in Equi.

I not (F), aluminium (Al), reported here as $\frac{0.0}{0.00}$ except as shown. Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Grovimetric determination

Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by Colifornia Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Branchine (AWD); Las Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Surhern California Operatment of Water Resources (DWR); as indicated.

Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL), as California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT WEST STANISLAUS I. D. INTAKE (STA. 27b)

		Anolyzed by i		USBR											
	4	Hordnass bid - Coliform os CoCO ₃ ify MPN/mi Total N C ppm													
	Tur-	bid – ity In ppm				_									
		Hordness os CoCO _S Total N C ppm ppm													
-		T P P P P P P P P P P P P P P P P P P P		23	52	52	53	84	94	61	64	52	75	53	₹
r	Totol	solids solids in ppm		1,026	348	380	95h	280	154	999	1 899	919	592	808	1,044
		Other constituents													
	2	Boron Silico (B) (SiO ₂)													
Hion	per million	Fluo- ride (F)													
ports per million		trote (NOs)		5.0	2.5	1.2	3.1	1.24	9.0	3:1	2.5	3.7	3.7	3.7	3.1
	equivolents	Chio- ride (CI)		265	179	75	214	88	90	178	171	175_	153	241	294
	. u	Sul - fots (SO ₄)		525	92	87	13%	54	2ht	136	122	क्ष	106	170	525
	constituents	Bicar- bonate (HCO ₃)		252	25	102	163	77	547	184	187	188	147	7172	227
	Mineral cont	Corbon-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Mine	Polos- C sium (K)		7.4	3.9	2.0	2.0	5.1	1.6	3.1	2.7	3.1	2.0	3.9	3.1
		Sodium (No)		194	61	99	150	74	56	118	ন্ন	123	277	169	961
		Magne- sium (Mg)		51	13	16	36	21	7.3	36	31	<u>e</u>	28	3	2
		Calcium (Ca)		99	56	56	55	53	낌	7:71	22	611	35	8	69
		I a		7.7	7.2	8.1	7.2	7.6	7.4	7.8	7.5	7.6	7.9	0.0	7.9
	Soccific	conductonce (micromhos at 25°C)		1,580	534	925	1,303	473	254	1,084	1,080	1,104	8882	1,352	1,6%
		Dissolvs d oxygen ppm %Sat													
				717	52	54	88	8	69	92	76	22	8	88	53
		Dischorgs Tamp in cfs in oF													
		ond time sompled P.S.T	1962	1/16	2/15	3/14	4/16 1150	5/16 1030	6/15 1015	7/16	8/16 1020	9/18	10/16	1030	12/13

o Freld pH.

b Loborotory pH.

c. Sum of calcium and magnessium in epm.

d. Iron (Fe), aluminum (AI), arsetic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reparted here as 0.0 except as shown. c Sum of calcium and magnesium in epm.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

h Annual median and range, respectively. Calculated fram analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Duality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States (USPHS); Son Bemordina County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Las Angeles, Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Papertment of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

Anolyzed by i USBR Hordness bid-Coliformh & Totol N.C. Total Per-35 166 172 158 Other constituents Silico (SiO₂) Boron (B) equivalents per million parts per million Fluo-ride (F) SAN JOAQUIN RIVER AT WHITEHOUSE (STA. 24b) 9.0 Chlo-2 Sul -fate (SO₄) Mineral constituents in 75 Brear-bonate (HCO₃) 7 Corbon-0.0 Potos-Sium (K) 5.0 Sodium (No) 켍 Mogne-Sium (Mg) 8.4 Calcium (Ca) 1 7.3 ĭ Specific conductance (micramhas of 25°C) 180 191 197 Dissolved ррт |%501 Oischorge Tamp 12 99 62 Oats and time sompled P S.T 3/17 1962 3/2

Laboratory pH.

Sum of colcium and magnesium in epm.

Sum of coferum and magnessum in Apm.
Iron (Fe), aluminum (A1), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamption (USBR); United States Department of Water and Power (LADWP); City of Las Angeles, Department of Water and Power (LADWP); City of Las Angeles, Department of Water and Power (LADWP); City of Las Angeles, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Colculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Labaratories, or United States Public Health Service.

o Field pH

ANALYSES OF SURFACE WATER CENTRAL VALLEY REGION (NO. 5) TABLE B-14

STANISLAUS RIVER NEAR MOUTH (STA. NO. 29)

		Anolyzed by i		nscs												
		bid - Coliform		Median	62. Max1mum 7000.	Minimum 0.62										
		- p. d			m	91	8	15	1	8	9	77	707	20	m	v
		Hardness os CaCO ₃	Na		0	0	77	77	0	0	0	0	0	0	0	0
-			Total		108	108	742	92	8	16	8	077	8	8	8	100
-	å	L Boal	-		-33	22	12	8	18	8	25	₹	25	27	23	23
	Total	solved solids	In ppr				_		148				165			
									ABS 0.0 Po. 0.25				ABS 0.000 AB 0.000 PO ₁ 0.20			
		Silico	(2015)						디				প্র			
	million	Boron	(B)		0.0	0.0	0.0	0.0	0.0	0	0.0	0,1	0.0	0.1	0.0	0
	Der 3	Flue	(F)						0.2				0.1			
	equivalents per mit	Ž	(NO ₃)						0.8				2°11			
	A NINDO	Chlo-	(C)		8.6	8.5	0.0	8.1	1.5	0.06	0.0	8.5	0.20	11 0.31	4.8 0.14	0.21
	Ę,		(\$0\$)						0.00			_	0.18			
	constituents		(HCO ₃)		144	140	46 0.75	1.14	37	00.33	107	152 2.49	2.26	132	110	131 2.15
	Mineral co	Carbon-	(00)		000	0.00	000	0000	000	000	000	000	0.00	0.00	000	0.00
	Σ	Potos-	(×)						0.03				0.00			
		Sodium	(o z)		15	15 0.65	0.12	8.8	2.9	2.1	12 0.52	0.70	0.65	0.70	11 0.48	14 0.61
		Mogne-	(Mg)						0.21				9.4			
		Calcium Magne-	(00)		2.15	2.16	0.814	1.52	7.84 0.37	0.32	1.60	2.20	23	1.88	1.60	2000
		σž			7.7	8,2	7.1	7.7	7.3	7.1	8.0	7.7	7.9	8.2	0.8	7.9
	Spacific	Conductance (micramhos			692	568	76	182	72	1977	205	576	249	246	198	257
-			%Sat		107	8	66	66	96	101	82	106	83	80	89	88
		Dissolved	ррш		12.0	10.4	10.7	8.9	4.6	9.5	7.3	0.6	7.6	7.5	9.1	6.3
		Temp In OF			51	53	22	69	†r9	99	7.1	92	899	8	2,9	55
		Dischorge Temp			14	E.43	1,643	202	1,035	3,188	131	66	88	131	185	56
		ond time	P.S.T	1962	1/11	2/8	3/1 1315	1,75	5/1 0915	1440	7/3	8/10 1150	9/6 0830	10/3	11/8	12/6

b Laboratory pH

c. Sum of calcium and magnesium in epm.

c. Sum of calctum and magnessum in thm.

d. Iron (Fe), aluminum (AI), arsanc (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{*6}), reported here as 0.0 except as shown.

a Derivad from conductivity vs TDS curves.

f Determined by addition of analyzed constituents. g. Gravimetric determination.

h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

STANISIAUS RIVER BELOW TULLOCH DAM (STA. NO. 298)

		Analyzed by i	USGS														
		Hordness bid Coliform as CaCO ₃ ity MPN/mi		Median 4.2 Maximim	620. Minimum 0.045								_				
	,	- bid - ity		Q	2	25	5	5	5	m	н	m	8	4	N		
		aCO _S N.C.		0	7	77.	m	0	0	0	0	0	0	0	m		
		Hord Os C Ppm		32	37	39	37	17	Ħ.	17	91	8	22	55	32		
	d	sod –		13	Ħ	71	17	8	8	%	33	18	2	15	97		
	Total	solved solids in ppm						33				35					
		Other constituents						PO _{1, 0.05}				PO ₁ 0,00					
		Silico (SiO ₂)						킈				27					
B/	Hion	1 5 1		01	0:0	6	0.1	0.0	0.0	0:0	0.0	0.0	이	0.0	0		
2	per million	Fluo- rids (F)						0.0				0.00					
STANTSLAUS ALVER BELOW TULLOCH DAM (STA. NO. 298)	equivolents per million							0.00				0.0				-	
LOCH DA	inbe	Chto- ride (CI)		1.1	0.03	2.2	2.5 0.07	0.6	3.0	1.7 0.05	0.03	0.02	3.6	0.03	0.03		
TOT. MOY	E .	Sul - fote (SO ₄)						0.0				0.4			_		
VER BES	constituents	Bicar – bonate (HCO _S)		99°0 0†	99.0	41 0.67	42	25	18	0.31	23	25	28	28	35		
STAUS FO	Mineral con	Corban- ote (CO ₃)		000	0.0	0.00	0.0	0.00	000	0000	000	0.0	000	0.00	000		
STAINT	Min	Potos- sium (X)						0.0				0.0					
		Sodium (No)		2.3	2.8	2.9	3.5	2.0	1.8	2.2	2.1	2.1	2.5	1.8	2.7		
		Mogna- sum (Mg)	-					1.5				1.1					
		Calcium (Ca)		0.65	0.74	0.78	0.74°C	4.4	0.28	0.28	0.31	6.3	0.14 0.14	0.44	9.00 19.00		
_		a		7.5	7.8	1. ⁴	7.6	7.1	7.3	6.9	7.4	7.1	7.1	7.0	7.3		
	Soncific	canductance (micramhas at 25°C)		76	88	91	85	74	36	38	75	52	29	57	78		
		151		76	102	8	85	102	96	83	78	20	%	82	833		
		Oiseo osy ppm		10.8	11.8	10.0	9.8	10.3	9.5	8.0	7.5	6.9	ω. ω.	8.2	9.3		
		Tem in of		84	84	Lt	84	59	99	63	67	73	63	09	20		
		Oischorga Tamp in ofs in of		2775	}	0006	1	004,4	4,500	1	1		1	345	i		
		ond time sampled P.S.T.	1962	1/10	2/8 1535	3/7 2400	1030	5/10	6/8	7/13	8/7	9/4 1335	10/5	11/9	12/7		

o Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

Countries are an experienced by the second of the second o Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination.

Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by Colifornia Department of Public Health, Division of Lobaratories, or United States Public Health Service.

n Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Water and Power (LADWP); City of Los Angeles, Department of Water District (SRCFCD); Metropolition Water District of Southern California Objection (WWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5) STOCKTON SHIP CHANNEL ON RINDGE ISLAND (STA. 100)

	Anolyzed by i		USGS											
	Hordness bid - Coliform as CoCO ₃ liy MPN/ml		Median 620.	Minimum Minimum	V.									
	bid - Ify In ppm		9	120	70	22	35	55	150	35	20	6	07	9
	SCO ₃		133	75	27	94	38	17	17	6	15	56	35	24
	Hord as C. Tatol ppm		236	120	66	115	113	69	8	78	89	170	154	158
0	sod -		1.7	84	147	12	94	23	84	143	94	55	75	55
Totol	solved solids in ppm		525e	279 ^e	219	285	2643£	159	175°	151	201 E	425°	385°	405°
	Other constituents						3.7 PO4 0.15				PO _{1, 0.35}			
	(SiO ₂)	_									16			
ion	Boron (B)		0.2	0.2	0.3	0.3	0.2	0:0	0.0	0:0	0:1	0.2	0.0	o. o
E .	Fluo- ride (F)						0.3				0.01			
ports per	Ni- trofe (NO ₃)						0.6				1.7			
equiv	Chlo- ride (CI)		154	99.1	444	2.12	1.95	1.18	1.35	31 0.87	1.38	3.64	3.27	3.41
en E	Sul - fote (SO ₄)						37 0.77				21 0.44			
stituent	Bicar- bonata (HCO ₃)		126	81 1.33	1.44	1.38	91	58	77	84 1.38	94	176	2.38	2.21
Mineral constituents	Carbon- ate (CO ₃)		0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0,00	0.00	0000
Mın	Patas- sium (K)						3.1				2.1			
	Sodium (No)		97	51 2.22	40	54 2.35	2.00	30	1.43	1.17	36	460.1	83	3.87
	Mogne- sium (Mg)						11 0.91				0.83			
	Calcium (Co)		4.72c	2.40°	1.3%	2.30c	27	1.30°	1.60°	1.57c	19 0.95	3.40	3.09°	3.15°
æ	Ωнα		7.7	7.5	7.5	7.2	7.0	7.5	7.7	7.2	7.3	7.5	7.5	2.5 B.5
Specific	(micromhos		ghh	501	394	513	1 58 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	286	315	271	340	165	269	723
			65	78	82	93	100	986	66	833	91	79	98	8
	Diseo oxy ppm		7.0	9.4	9.0	8.9	9.1	7.6	8.1	6.8	7.5	7.1	4.8	9.6
	Temp in oF		177	45	53	†9	8	17	79	92	92	69	62	55
	Oischorge Temp	Tidal												
	ond time sampled P.S.T.	1962	1/10	2/14	3/7	4/5	5/9	0180	7/9	8/1	9/4 1330	10/8 0955	11/14	12/4

b Laborotary pH

c Sum of colcium and magnesium in epm.

c. Sum of colcuum and magnessum in epm.

d. Iron (Fe), aluminum (AI), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as 0.00 0.00

Derived from conductivity vs TDS curves.

Determined by oddition of analyzed constituents.

h Annual median and ronge, respectively. Calculated from analyses of duplicate manthly samples made by Californio Department of Public Health, Division of Laborotories, or United States Public Health Service Gravimetric determination.

except os shown.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminol Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

		Analyzed by 3	USGS											
		de CoCO ₃ ity MPN/mil nppm ppm ppm												
		Edd u	10	009	100	35		50	25	350	30	35	01	35
		DCO3	34	22	24	0	7	50	0	н	0	14	25	%
		Hard ae Co Tatol PPm	191	120	140	16	109	115	120	134	134	135	124	141
	à	sod -	19	23	22	23	22	50	50	50	21	23	22	56
	Total	dis- salved solids in ppm					154f				188f 208E			
		Other constituents	Tot. Alk. 191			Tot. Alk. 117	PO ₄ 0.00 Tot. Alk. 124				PO _{l, 0.05} Tot. Alk. 172			Tot. Alk. <u>141</u>
		Silica (SiO ₂)					112				122			
	lion	Baran (B)	0.2	0.0	0.1	0.2	0.2	0.1	0.2	0.2	0.0	0.2	0.0	0.1
13c)	por million	Fluo- ride (F)					0.0				0.00			
DAM SITE (STA. 13c	parts per millian equivalents per mil	NI- trote (NO ₃)					0.00				0.05			
DAM S	aguiv	Chlo- ride (CI)	34,0.96	26	26 0.73	12 0.34	16	15	14	14	0.37	0.62	28	1.21
BUTTE	u i	Sul - fote (SO ₄)					13				0.31			
AT BLACK	constituents	Bicar- bonate (HCO ₃)	185 3.03	120	2.33	110	120	2.20	2.43	162	162	2.41	121	2.25
STONY CREEK AT BLACK	Mineral con	Corbon- ote (CO ₃)	3 0.10	00.00	0.00	0.10	20.07	00.00	00.0	000	5.17	00.00	00.0	0.07
STON	Min	Potos- sium (K)					0.0				0.0			٠
		Sodium (No)	20 0.87	0.70	18	11 0.48	14	13	14 0.61	15	16 0.70	16	16	1.00
		Mogne- sium (Mg)					11				1.13			
		Calcium (Ca)	3.85°	2.400	2.806	1.82	26	2.30c	2.40	2.68°	31	2.70	2.48c	2.81
		pH a/b	8.1	7.8	8.1	7:7	8.3	0,00	8.1	8 8	8 8	880	7.7	8.3
	Specific	(micromhos at 25°C)	844	304	331	221	192	566	586	305	316	329	317	387
			107	8	95	98	109	108	%	22	16	100	8	104
		Dissolved oxygen ppm %So	12.3	11.11	10.3	9.6	10.1	4.6	6-1	7.7	80.	10.0	10.7	4.11
			67	84	54	62	67 1	73	75	92	69	60 1	51 1	52
		Discharge Temp	∞	2,900	630	009	135	%	85	159	09	09	22	80 2
		and time sompled P.S.T.	1/11	2/14	3/14	4/12	5/17	6/19	7/18 0835	8/21	9/20	10/18	11/28	12/19 1105

a Field pH.

b Labaratory pH.

c Sum of colcium and magnesium in epm.

d Iron (Fe), aluminum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves.

Gravimetric determination.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States (USPHS); Son Bernardina County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (WMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculoted from analyses of duplicate monthly samples mode by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

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ANALYSES OF SURFACE WATER TABLE P-14

CENTRAL VALLEY REGION (NO. 5)

STONY CHEEK NEAR HAMILTON CITY (STA. 13a)

		Anolyzed by i	SDSD											
	4	Hordness bid - Coliform Analysed os CoCO ₃ liy MPN/mi by i Tatal N C.	Maximum 620.	Minimum 0.23	Median 25.									
	Tur	bid - ity in pom		909	30	35	m	CI				15		င္က
		N C. PPH.		12	27	m	∞	~				ij		23
		Hordness os CoCO ₃ Tatal N.C. ppm ppm		78	140	100	136	142				147	_	7 7 7
l	0.	god -	,	22	22	22	19	19				50		88
	Total	solved solids in ppm					179f							
		Other constituents				Tot. Alk. 118	PO, 0.00 As 0.00 ABS Tot.Alk.156							Tot. Alk. 14 <u>T</u>
		Sifico (SiO ₂)					리							
	lion	Boron Silico (B) (SiO ₂)		0.8	0.1	0.2	0.1	0.1				7.		O
g)	per million	Fluo- ride (F)					0.0							
STONY CREEK NEAR HAMILION CITY (STA. 138)	63						0.00							
CITI	equivolents	Chlo- ride (CI)		7.0	27.0	0.39	0.51	18				23		1.21
IAMILLTON	<u>-</u>	Sul - fate (SO ₄)					0.23							
K NEAR H	constituents	Bicar- bonate (HCO ₃)		80	2.30	111	144	2.70				2.72		140 2.29
NY CHEE	Mineral con	Carbon- ats (CO ₃)		00:00	0.00	0.13	0.20	00.00				00.0		0.13
STC	Min	Potas- sium (K)					0.8							
		Spdium (n n)		10	18 0.78	12 0.52	15	0.65				17 0.74		1.13
		Magne- sium (Mg)					14	ه						
		Calcium (Ca)		1.55°	2.80c	2.00	32	2.8±°				2.93°		88.
		B. C		7.3	2.0	N. D.	000	77:				8.2		√1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
	0.000	conductonce (micromhos of 25°C)		199	333	544	323	340				348		393
		1 %		16	95	100	113	81				76		100
		Oisso		10.0	10.7	9.3	10.1	7:				6.6		11.2
		Tean or		52	50	19	17	69				59		51
		Dischorge Temp	DRY	17,000	729	5611	31	e. 0	DRY	DRY	DRY	39	DRY	1 to
		Sompled	1/11	2/14	3/15	4/12	5/14	6/19	7/18	8/21	9/20	10/18	11/28	1015

-901-

o Field pH

b Laboratory pH

c. Sum of calcium and magnesium in opm. d. Iron (Fe), aluminum (AI), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown. c. Sum of calcium and magnesium in epm.

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves.

g Grovimetric determination.

h Annual median and ronge, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

HOMES CHEEK MEAR MOUTH (STA.

		Anglezad	by 1	USGS				***					•		
		Caliform	n ppm MPN/ml												
		Tur- bid-	ity In ppm	m	85	9	190	m	А	N	67			S	10
		60 60 E	os CoCO ₃ Total N.C. ppm ppm	77	œ	1,4	N	50	ω	174	12			9	α
		Hord	os Co Totaí ppm	112	70	130	55	77	118	128	138			116	8
		Per-	- pos	9	17	7	0	7	ot	10	9			10	0
		dis-	solved solids in ppm					166							
			Other constituents					Po ₁₁ 0.05		Tot. Alk. 139					
			Silica (SiO ₂)					20							
		-01	Boran (B)	0.0	0.1	0.1	0.0	0.0	0:0	0:	0.1			0.0	0.
	noillie.	per militon	Ftuo- ride (F)					0.1							
A. 95b)	ē l	equivalents	trate (NO ₃)					00.1							
TS) HILD	-	9401	Chio- ride (CI)	0.23	1.5	4.2	0.03	3.5	4.5	5.2	7.0			5.6	0.11
NEAR MC	E.	- 1	Sul- fote (SO ₄)					0.21							
THOMES CREEK NEAR MOUTH (STA. 95b)	nstituen		Bicar- bonate (HCO ₃)	120 1.97	76	142	1.07	1.44	134	2.18	2.52			134	1.59
THOME	Mineral constituents		Corbon- ate (CO ₃)	0.00	00.00	0.00	00.00	0.00	0.00	3 0.10	00.00			0.00	0000
	ž		Potas- srum (K)					0.0							
			Sodium (Na)	5.6	5.0	0.31	2.6	0.50	0.9	6.7	0.31			6.1	0.17
			Magne- Sium (Mg)					5.4							
			Calcium (Ca)	2.240	1.40	2.60	1.10c	22	2.36	2.56	2.76			2.33°	1.63
		-	BA/b	7.00	7-1	6.8	7.8	88	8.5	7.4	7.9			7-7	2.5
		Specific	(micramhos at 25°C)	540	147	273	120	167	241	566	293			254	178
			151	93	776	8	16	100	95	125	121			96	66
		Dissolved	ppm	10.8	10.2	11.3	10.5	ω ω	80	10.9	6.6			φ φ	11.1
		E	0 ci	87	53	24	24	72	7	73	42			68	12
		e crodos o	Est. by	28	1,000+	100	300	35	15	3	1.0	DRY	DRY	9.0	100
		Date	sompled P.S.T.	1/12	2/9	3/9	1,76	5/7	6/20	7/2 1030	8/1 1130	9/11	10/1	11/11	12/10

o Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

c. sum of calcions and magnessian in tepin.

d. Iran (Fe), aluminum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from canductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laborataries, or United States Public Health Service.

Annual analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Bealth (SPHS); Son Bernardino County Flood Canterior (SMCFCD); Mater District (SMCFCD); Mater California (WMD); Las Angeles Department of Water and Power (LADMP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated.

TABLE B-14

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

THOMES CREEK NEAR PARKENTA (STA. 134)

9

			Analyzed by 1	USGS												
			bid - Coliform ity MPN/ml						-							
		Tor	- bid tty mgg u	8	To	25	20	ന	CV	٦	<u></u>	6	50	20	07	
			S Na	10	7	18	m	9	00	13	25	70	N	m	rel	
				77	89	118	717	7	8	11.7	173	179	62	53	62	
		Per	sod - Four	11	7	10	12	11	7	16	91	18	7.7	12	Ħ	
		Total	solids olids mdd u					92 f				244£				
			Other constituents					PO _{1,} 0.00	Tot. Alk. 89			Pol 0.00 Tot. Alk. 170				
	1	-	(SiOg)					리				피				
	e o	million	- Boron (8)	0.1	0.0	0.0	0.1	0.0	0.0	0:1	0.1	0.5	1.0	0.0	0,0	
G	Ē	, a	Fluo- ride (F)					0.0				0.01				
37A 13	ports per million	equivolents	Ni- trots (NO ₃)					0.0				0.02				
KEINTA		1000	Chio- ride (CI)	4.6	2.8	5.1	0.13	2.8	3.5	14 0.39	0.71	36	0.12	3.8	410 6	
AR PAS	9	- 1	Sul - fote (SO ₄)		7.0			0.23				0.00				
REEK NE	constituents		Bicor- bonote (HCO ₃)	82 1.34	7 ⁴	122 2.00	50 0.82	<u>78</u> 1.28	85 1 · 39	120	180	154	<u>13</u> 1.20	61 1.00	1.21	
THOMES CREEK NEAR PASKENTA (STA. 13d)	Mineral		Corbon- ote (CO ₃)	0.00	0.0	0.00	00.00	0.00	0.07	00.00	0.00	8	00.00	0.00	00.0	
H	¥		Potos- sium (K)					0.5				0.03				
			Sodium (No)	02.0	1.0	5.9	2.7	4.1 0.18	0.21	100	15	118	0.50	3.5	3.6	
			Mogna- sium (Mg)					0.40				1.13				
			Colcium (Co)	1.54c	1.36	2.36	0.88	1.00	1.62	2.35c	3.400	2.45	1.24	1.05°	1.240	
			pH a/b	2.5	7.7	2,0	7.5	8.0	8.3	80 80	8.2	800	7.5	7.5	8.0	
		Specific	conductance (micramhas of 25°C)	1/1	148	243	98	154	175	271	392	414	140	119	136	
			151	97	%	95	93	%	88	104	8	66	66	86	86	
		i	Dissolve d oxygen ppm %Sc	13.0	11.9	10.9	10.4	9.5	8.0	9.8	4.9	8.9	10.9	11.9	п.7	
		1	E o ci	38	14.3	67	51	19	79	78	75	70	52	517	91	
			Dischorge Temp in cfs in of	72	622	200	7.15	163	61	10	5.1	1.8	ಹೆ	389	1,33	
			sompled P.S.T.	11/1	2/14 1340	3/14	4/12 1030	5/17	6/19	7/18	8/21 0935	9/20	10/18	11/28	12/19	

o Field pH.

b Loboratory pH

c Sum of colcium and magnesium in epm.

c sum or catebul and magnessum in epin.

I remark (Cr⁺⁵), reported here os 0.0 except as shown.

I round [Fe], aluminum (Al), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here os 0.0 except as shown.

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Lobaratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Surveau of Reclamation (USBR); United States Department of Water Department of Water Object (UADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated.

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ANALYSES OF SURFACE WATER TABLE 8-14

CENTRAL VALLEY REGION (NO. 5)

TULE RIVER BELOW SUCCESS DAM (STA. NO. 91)

		Anolyzed by i		usos														
		bid - Coliform		Median	Maxdmun 7000.	90.0			-									
1	1	Pid-			2	0	11	ņ	-7	٦	~	2	m	2	w	m		
		CO3	N C D D D		0	0	0	0	0	0	0	0	0	0	0	0	 	
			Total		188	146	107	81	56	贸	99	69	36	100	108	116		
	0	sod -			25	56	56	27	25	22	23	23	21	22	22	23		
	Total	solved solved	Edd L						66				147	150		184		
		Other constituents							ABS 0.0 POL 0.TO				ABS 0.0 POL 0.20					
		Silica	(201C)						81				52					
	volents per milion	Boron	(g)		0.2	0.2	0,1	700	0.0	C	0	0.0	0.0	0.0		0.1		
		Fluo-	(F)						0.02				0.1					
			\rightarrow						0.0				0.02					
	aquiv	Chlo-	(ÎD)		2½ 0,68	11h 0.39	10	6.2	4.5 0.13	10.2 0.12	3.8	11.0	5.0	7.5	5.8	6.0		
	9	Sul -	(804)						3.0				5.0					
	cometifuents	Bicor-	(HCO ₃)		246	3.28	2.34	1.85	80	80	94	98	132	147	158	171 2.80		
The state of the s	Mineral col	- Corbon-	(00)		0.13	0.00	0.00	00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	ž	Potos-	(¥						1.6				2.9					
		Sodium	(0N)		29	23	17.0	14,0 0,61	0.38	7.5	9.2	9°6	12	13	14,0	16		
		Colcium Mogne-	(Mg)		·				2.2				0.39					
		Colcium	(00)		3.76	2.92	2.11	1,62	19 0.95	1.17	1.36			1.99		2.33		
		Ha	- 1		1°8	8.1	8.1	7.5	8.0	7.1	7.8	7.1	7.3	7.6	7.9	7.6		
	9.000	Conductonce (micromhos			455	365	276	208	153	151	167	172	223	2144	263	288		
			%Sot		135	100	96	106	111	116	114	75	73	89	104	85		
		Dissolved	, mdd		15.2	11.4	10.9	11.0	11.11	11.4	10.h	6.7	6.1	7.5	10.0	8.7		
		Temp			S	77	718	92	3	62	899	70	78	92	63	288		
		Dischorge Tamp			12	09	1	779	η9	110	19	ì	011	<i>-</i> 23	11	15		
		Oote ond time	P.S.T	1962	1/9	2/6	3/6	1,74	5/10 5/15	6/4	7/5	8/6	9/13 1015	10/2 0950	11/11	12/4		

b Laboratory pH.

Sum of calcium and magnesium in epm.

Sum of calcium and magnesium in epm.

Iron (Fe), oluminum (A1), orsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Ci *5), reported here as 0.0 except as shawn.

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves.

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Survey of Reclamation (USBR); United States Public Health Service (USPHS), Son Bernardina Country Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Lobaratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Labarataries, or United States Public Health Service.

ANALYSES OF SURFACE WATER

TABLE R-14

CENTRAL VALLEY REGION (No.5)

		Anolyzed by I	USOS													
		bid - Coliform ity MPN/ml	Wadtan	23. Maximum	Minimum 0.06											
	Tur	- Pid - Lig		2	0.	50	9	9	w	2	m	7	15		-2	
		N COS		0	٦	9	7	0	0	0	0	0	0		٦	
				777	32	33	30	ដ	9	9	9	9	œ		∞	
	Q.	sod -		16	22	7	18	25	27	28	35	56	30		19	
	Total	solved solids in ppm						27				15				
		Other constituents						Po ₁ 0.05				Pol, 0.00				
		(Silica (SiO ₂)		01	ol	OI.	H1	9.6	01	al	<u> </u>	0 5°h	01			
(a)	on Illion	Boron (B)			0	0.0	0.1	00	0.0	0.1	0		00		0	
NO. 31	per million	Fluo- ride (F)						0.1				0.0				
(STA.	ports per million valents per mill	rrote (NO ₃)						0.00				0.0				
TUGLUMNE RIVER BELOW DON PEDRO DAM (STA. NO. 31.)	ports pe	Chlo- ride (Cl)		1.5	2.0	2.1	2.2	0.0	0°5 0°0 10°0	1.8	1.0	0.03	2.4		0.06	
DON PE	Ľ.	Sul - fots (SO ₄)						0.0				0.00				
R BELOW	Mineral constituents	Bicar- banate (HCO ₃)		31	38	33	32	19	0.23	0.13	9.0	0.13	010		51.0	
MNE RIVE	neral cor	Carbon- (CO ₃)		0.00	0.0	0.00	0000	0.00	0.00	0.00	0.00	0.0	0.0		0.00	
TUOLU	M	Potas- sium (K)						0.0				0.0				
		Sodium (Na)		2.1	3.8	2.6	2.9	2.0	1.6	1.2	1.5	1.2	1.5		0.9	
		Magne- sium (Mg)						0.00				0.5				
		Calcium (Ca)		० गुरु	59.0	0.65	0900	3.2	0.19	0.13	0.13	0.09	0.16		0.17	
		a E		7.5	7.3	7.3	7.h	7.1	7.0	6.9	9.9	6.7	7.0		9.9	
	Specific	(micramhos at 25°C)		179	80	75	77	35	53	19	50	22	27		23	
				714	77	92	17	7.7	79	89	29	72	78	ted.	88	
		Dissolved oxygen ppm %Sa		8.0	8.7	10.6	8.0	7,	1.9	8.1	9.9	6.7	7.7	collected.	9.4	
		Ten or		53	50	11.8	S	굯	95	68	62	99	61	sample	₹	
		Discharge Temp in cfs in oF		1	617	7680	2600	3400	2600	2230	1	2070	;	No s	5900	
		ond time sampled P.S.T	1962	1/19	2/7 01,11	3/9	00°TR	2/6	6/7	7/3	8/13 0850	9/8	10/18	n/	12/10	

o Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

c sum of calcula and magnessum in epin.

d Iron (Fe), oluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexovalent chromium (Cr*⁶), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Grovimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service (USPHS); Son Bernardino County Flood Canneral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Survey, Quality of Water Branch (USGS); United States Department of Water and Power (LADWP); City of Los Angeles, Department of Water California Department of Water and Power (LADWP); City of Los Angeles, Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

TUOLUMNE RIVER AT HICKMAN-WATERFORD BRIDGE (STA. NO. 30)

	Anolyzed by 1		usgs				_										
	bid - Coliformh Ar			Median 46. Maximum	Minimum 2.1												
-	MP MP			2 Max	8 X3 X	25	9	- 5	α	9	CI	-	15		α	 	1
	Se Did	o ₽		24	33	- 20	<u></u>	27	 %	31	52	52	77		m		-
	Hordness os CoCO ₃	Tatol N.C. ppm ppm		134		33	911	777	120	121	225	911	200		18	 	1
	God -			84	65	16	756	877	64	53	53	64	77		39		1
Tatol	solved solids	mdd u						294				323					
		Care care near s						PO _{1, 0.15}				PO _{1, 0.05}					
	Silico	(\$102)						71				7					
lion	5	<u>@</u>		0.1	0	0.0	0.1	0,1	0.1	0.0	0,0	0.1	0.0		0		
million per million	Fluo-	(F)						0.1				0.0					
ports per million equivalents per mill	1	(NO ₃)			,			0.5			-	0.00					
od nivo	Chlo-	(C)		3.05	106	9.0	16	2,68	2.79	3,22	2.99	104 2,93	0.59		0.28		
Ē	Sul -	(\$04)						5.8				2 17		_			
constituents	Bicor-	(HCO ₃)		11.84	106	34	62.0	106	1.61	114	118	11.92	32 0.52		0.30	 	1
		(CO3)		000	0.0	000	000	000	0.20	000	000	0000	0000		000	 	
Mineral	Potos-							5.0				5.4				 	
	Sodium	(O Z)		2.52	2.39	3.1	11 0.48	2.26	2.35	65 2.83	62 2.70	25.44	11 0.48		5.3	 	
	Magne-	(Mg)						0.88				9.8					
	Calcium Magne-	(°C)		2.68	2.40	99.0	0.92	28	2.40	2°748	2.14	31	09.0		0.36		
	Ë			7.8	7.8	7.4	8.0	7.9	8.5	8.2	8.0	8.2	7.0		7.0	 	
0	conductance (micromhos	D - C V - ID		8775	530	82	137	767	503	547	536	528	911		19		
		%Sat		02	51	8	86	82	12T	79	ħ	104	85	• ්	89		1
	Dissalved	mdd		7.4	5.3	9.5	7.6	7.0	10.2	6.5	7.8	0.6	8.0	collected.	9.5		
	Temp in oF			53	57	50	61	75	23	78	78	77	65		54		-
	Discharge Temp			155	165	4,329	1999	119	711	113	125	135		No sample	8877		
	and time	P.S.T.	1962	1/19	2/7	3/9	1500	5/9 1510	00/1	1/3	8/13 1015	9/8	10/18	717	12/10		

a Field pH

Derived from conductivity vs TDS curves

b Laboratory pH

c. Sum of calcium and magnesium in epm.

Sufficiently incorrespond (Cr. ⁺6), reported (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr. ⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of analyzed constituents.

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Lobaratories, or United States Public Health Service.

Mineral analyses made by United States Geological Stavey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Water Department of Water and Power (LADWP); City of Los Angeles, Department of Water Beach, Department of Water and Power (LADWP); City of Los Angeles, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

CENTRAL VALLEY REGION (NO. 5)

THOLUMNE RIVER AT TUOLUMNE CITY (STA. NO. 31)

	Analyzed by i		USGS													
	Hardness bid - Coliform" Analyzed os CaCO3 IIY MPN/ml by I		Median	24,00. Maxdmum 7000.	Minfaum 37.											
1 11	- bid - ity n ppm			2	ν.	35	6	w	6	50	2	25	15	-	77	
	aCO ₃	mdd		88	76	r-	18	777	775	22	53	779	277		77	
		mdd		212	203	37	73	155	153	168	178	156	80		71	
9	eod -			8	52	56	775	50	51	52	55	23	23		148	
Total	solved solids in ppm							387				गटग				
	Other constituents							ABS 0.1 PO _L 1.5				ABS 0.1 AS 0.01 PO _L 0.65				
	Baron Silica (B) (SiO ₂)							2				35	>1		61	
llion	Boron (B)			0.1	0:	ं।	0.2	0.2	0.1	Tion Tion	0.1	ं	0.1		0.0	
millior er mi	Fluo-							0.1				0.0				
parts per million equivalents per million	rote 1	\rightarrow						0.07				5.5				
B quiva	Chio-	(5)		170	190	9.2	1.27	136 3.84	135 3.81	138	184	164	76		39	
Ē	Sul - fote	(*ne)						14 0.29				7.0				
atifuents	Bicar- banate	(HCO3)		175 2.87	155	37	67	2.21	136	1J ₁₂ 2-33	14.8 2.43	134	68 II:I		36	
Mineral constituents	Carban			0.0	0.0	0.0	0.0	0.0	000	0.0	0.00	000	0.00		0.00	
Min	Potos-	(K)						4.6				6.2				
	Sadium (No)			66 F:1	97	6.1	24 1.04	3.22	3.18	3.57	101	3.74	178		19	
	Colcium Magne-	(gw)						12 I.oI				12				
	Colcium (Co)			<u>1,221</u>	90.1	24.0	97.1	42 2.10	3.05	3.30	3.78	42 2.10	1.60		0.89	
	٠ <u>۴</u>			7.3	7.2	7.1	7.1	7.3	7.2	7.9	7.2	7.1	7.0		7.1	
0.000	(micromhos pH			606	897	110	274	569	699	702	8778	745	370		196	
	D	%Sat		56	19	83	99	23	79	63	99	99	671	eq.	75	
	Oisso	E dd		2.9	6.3	9.5	5.9	1.7	5.6	5.2	5.3	5.7	1,8	sample collected.	8.1	
	Temp in ar			ß	54	Ω.	779	71	71	78	79	74	63	ample	53	
	Dischorge Temp in cfs in ⁰ F			257	265	3830	916	360	350	340	350	564	5776	No 88	1500	
	ond time sampled	P.S.T	1962	1/19	2/7	3/9	4/9 1155	5/9	6/7	1/3	8/13 1335	9/8	10/19	711	12/11 0900	

o Field pH

b Laboratory pH.

Sum of colcium and magnesium in epm.
Iran (Fe), aluminum (A1), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reparted here as \$\frac{0.0}{0.00} \text{ except as shown.}\$ c Sum of colcium and magnesium in epm.

Derived fram conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), Son Bernardino County Flood Contral District (SBCFCD); Metropolitan Water District of Southern California Department of Water Resources (DWR); as indicated.
Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annuol median and range, respectively. Calculated from analyses of duplicate monthly samples made by Colifornia Department of Public Health, Divisian of Laboratories, or United States Public Health Service.

CENTRAL VALLEY REGION (NO. 5) YUBA RIVER AT MARYSVILLE (STA. 21)

		Analyzed by i	Spen														
	,	bid - Coliform ify MPN/ml	Median	50.	2400. Minimum	0,63											
	- 1	- pig - pig - pig - pig	9		75	20	20	9	9	15	CV.	2	4	07	50		
		CO3 N C.	10	3	7	~	4	0	Q	CU	12	9	CV	CV.	7		
		Hordness os CoCO ₃ Totol N.C.	2.5		2	82	35	23	25	32	73	99	57	32	35		
	D	sod -	0	`	14	75	15	15	15	15	13	12	12	13	16		
	Totol	solved solids in ppm	18,	2	77e	53 ^e	53e	424	39e	53 ^e	106°	87 ^f 83 ^g	89°	51 ^e	57 ^e		
		Other constituents						As 0.02; ABS 0.0; POL 0.00				As 0.00; ABS 0.0; Po _L 0.10					
	Į	Silico (SiO ₂)						15				17					
	lion	Boron (B)	0.1		0.0	0.1	0.0	0:0	0:0	0.0	0:0	0.1	0.0	0:0	0:0		
million	per million	Fluo- ride (F)						0.0				0.1					
ports per million	in equivolents	Ni- trofe (NO ₃)						0.2				000					
١		Chlo- ride (CI)	1.8	0.05	3.1	7.0	2.0	0.03	2.8	0.03	2.2	1.8	0.03	1.8	2.2	-	
- 1		Sul - fote (SO ₄)						2.0				11 0.23			-		
	stituents	Bicor- bonote (HCO ₃)	5.7	0.93	52 0.85	38	38	28	28	37	74	99	67	36	17 0.67		
	Mineral constituents	Corbon- ofe (CO _S)	0	0.00	0,0	0.0	0.00	00.00	0.00	0.0	0.0	0.00	0.0	0.0	00.00		
:	Mine	Potos- Sium (K)						0.3				0.5		-			
		Sodium (No)	2.5	0.11	3.7	2.2	2.7	1.9	2.0	2.6	6.9	3.6	3.7	2.3	3.0		
		Magne- sum (Mg)						1.7				6.0					
		olenum (Ca)		1.14c	0.99°	0.76°	0.70c	6.4 0.32	0.50°	0.64°C	1.46°	0.70	1.14c	0.65°	0.70°		
	ed).	J.	7.3	7.9	8.0	7.3	7.4	7.2	7.2	7.3	7.7	7.5	7.3	7.1	7.3		
	Specific	conductonce (micromhos of 25°C)	113	}	77	92	76	54	57	92	153	127	129	7/2	82		
		151	104		%	8	105	106	102	96	104	103	103	%	105		
		Dissolved oxygen ppm %Sc	12.4		n.4	11.7	11.5	11.11	10.0	9.6	8.3	0.6	0.6	10.0	11.6		
		Temp in OF	94		877	94	23	95	62	69	81	72	72	92	55		
		Orschorge Temp	530	4	1010	2700	0464	2610	2920	777	517	125	197	787	17400		
	(ond time sompled P.S.T	1962	1430	2/8 1030	3/15	1100	5/15	6/11	7/2 0950	8/14	9/10	10/1	11/11	12/3		

o Field pH

b Laboratory pH.

c Sum of colcium and magnesium in epm

c sum or colcum and magnessian in terms of the state of t

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents

Gravimetric determination

h Annual median and roage, respectively. Colculoted from analyses of duplicate manthly samples made by Colifornia Department of Public Health, Division of Loboratories, or United States Public Health Service.

Annual analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Internal Survey of Reclamation (USBR); United States Department of Water and Power (LADMP), City of Los Angeles, Department of Southern California Department of Water and Power (LADMP), City of Los Angeles, Department of Public Health (LADPH); City of Los Beach, Department of Water Resources (DWR), as indicated.

ANALYSES OF SURFACE WATER TABLE R-14

CENTRAL VALLEY RECION (NO. 5) YUBA RIVER NEAR SMARTVILLE (STA. 21a)

	Anolyzed	by i		uscs													
	Coliform	s n ppm MPN/mt		Median 5.	Minimum Minimum	160.0											
	Tur - bid -	n ppm		9	8	35	0	4	m	-	7	-	m	30	15		
	2000	SE		-2	8	9	CV	0	0	0	0	0	0	0	-		
				93	47	36	32	21	22	22.	27	51	53	25	36		
	Per-	En:		01	12	ī	16	1%	14	16	13	12	15	7,	13		
	dis-	solids in ppm		73°	_e 69	69	50°	38 ^f	36	70e	62°	76 ^f	79e	100	57e		
		Other constituents						PO1, 0.00				As 0.00; ABS 0.0; POL 0.05					
	-	(SiO ₂)	_					21				51					
uc.	E -	Boron (B)		%	0:0	0.0	0:0	0:0	0:0	0:0	0.1	10.1	0.0	0:0	0:0		
millie		Fiuo- ride (F)						0.1				0.1					
0	adolvalents	trote (NO ₃)						0.0				0.00					
	1000	Chlo- ride (CI)		1.5	2.8	0.03	2.5	2.0	0.00	0.00	1.8	1.8	1.5	0.0	2.0		
er s		Sul - fore (SO ₄)						0.02				5.2					
stifuent		Bicar- bonate (HCO ₃)		54 0.89	47	36	37	26	27	30	51	62	69	30	43 0.70		
Mineral constituents		Corbon- ofe (CO ₃)		0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	00.0	0.0		
∑.		Potas- sium (K)						0.3				0.5					
		Sodium (Na)		2.5	3.0	0.09	2.8	1.7	1.6	0.00	3.0	3.2	3.2	0.08	2.6		
		Magne- sium (Mg)					-	0.08				2.1					
		olcium (Co)		0.960	0.94°	0.72°	0.64°	6.8	0.410	0.49c	0.840	0.85	1.06°	0.50c	0.71°		
	وماه	<u>.</u>		7.3	7.1	7.7	7.7	7.3	7.2	7.3	7.4	7.7	7.0	6.8	7.3		
	Specific	at 25°C)		901	101	72	73	20	53	82	91	111	116	82	83		
				102	96	101	110	107	66	96	102	76	8,	8	104		
	Dissolved	ppm ppm		12.2	11.8	12.1	11.9	11.1	9.7	9.1	8.7	7.0	9.8	10.2	11.7		
-				94	77	94	24	5.7	62	65	74	73	72	57	51		
	Orscharge Temp	In ofs M. D.		623	269	1820	0257	2720	2950	740	504	1,05	807	1010	13600		
		sampled P.S.T	1962	1/5	2/8 0915	3/15	4/5 1230	5/15	6/11	7/2	8/14 1515	9/10	10/1	11/1	12/3		

a Field pH

b Laboratory pH

c. Sum of calcium and magnesium in epm.

Sum or catching and uniquesion in epin.

Iron (F.), aluminum (AI), presented here as 0.0 except as shown.

Cr. 2, aluminum (AI), presented here as 0.0 except as shown.

Derived from canductivity vs TDS curves

Determined by addition of analyzed constituents. Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health (LADPH); City of Los Angeles, Department of Mater Besources (DWR); Only of Los Angeles, Department of Mater Resources (DWR); as indicated.
Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.



ANALYSES OF SURFACE WATER TABLE B-15

LAHONTAN REGION (NO. 6)
CARSON RIVER, FAST FORK NEAR MARKLEEVILLE (STA. 115)

		Analyzed by i		3950											
		I I MPN/ml		Median 6.2 Maximum	2400. Minimum 0.23										
	-ini	n ppm		m	1,0	m	30	8	10	8	07	cu .	2	н	н
		S Z d		0	0	ī	0	0	0	0	0	0	10	0	0
				51	775	82	54	21	20	8	37	34	746	43	54
	Par	- P0 -		36	33	56	28	25	27	30	8	<u>چ</u>	70	8	31
	Totol dis-	solved solide in ppm		117 ^e	94e	164°	115	I to I	37e	77	75e	73 ^f 78¢	105e	91°	97°
		Other constituents						PO ₄ 0.10				PO _{1, 0.05}			
ļ,	-	(SiO ₂)		O(I		011		2 15	01	01	01	81	01	حا	
u o	per million	- Boron (B)		0.2	0.1	0.2	0.1	°	0:0	<u> </u>	0:0	5.0	0.0	0.1	0,1
r mitti	ber	Fluo- ride (F)						0.0				0.01			
ports per million	equivolents	Nr- trate (NO ₃)						0.00				0.0			
8	edniv	Chlo- ride (Cl)		6.5	5.0	5.5	0.13	1.5	1.8	2.2	2.1	2.5	0.11	4.4	0.14
2		3ul - fore (SO ₄)		-				0.05				0.0			
atituents		Bicor- bonote (HCO ₃)		74	61	87	70	29 0.48	34	34	57	50	74	1.05	1.08
Mineral constituents		Carbon- ote (CO ₃)		0.00	0.00	0.00	0.00	00.00	00.0	0.00	0.00	0.00	0.00	0.00	0 00
M		Potos- C Sium (K)						0.0				0.03			
		Sadium P (No)		0.57	9.6	13	9.9	3.4	3.4	6.19	6.5	6.4 0.28	14 0.61	8.6	9.4
		Sium (Mg)						0.10		- 1,5		2.4			
		Colcium Mogne- (Co) Sium (Mg)		1.02°	0.81c	1.64°c	1.08°	6.1	0.110°	0.411°C	0.73°	9.6	0.91°	0.86°	0.91°c
		H		7.6	7:9	7.6	7.9	7.5	7:5	7.5	7.9	7.5	7.5	7.5	7.9
	Specific	(micromhos		158	127	222	156	57	90	199	101	76	142	123	131
		1 6		833	82	83	98	89	81	81	84	ē	82	85	81
		Discolved oxygen ppm %S%		12.0	11.8	11.4	п.2	10.6	10.0	9.1	8.5	φ. Ω.	9.5	10.6	111.7
		0 E O F		33	33	36	70	94	7 -	51	59	R	51	E 1	88
		Discharge Temp		94	89 B	98	355	1310	1040	333	124 MD	17	63	8	95
		sompled P.S.T.	1962	1/9	2/6	3/13	4/3 1040	5/10	6/14	7/12	8/9	9/13	10/4	11/8	1020

a Field pH

b Loborotory pH.

c Sum of colcium and magnesium in epm

c. Sum of calcium and magnesium in epm. d. of the contract of

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardina County Flood Control District (SBCFCD); Metropolitian Water District of Southern California (WMD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH), Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Divisian of Lobarataries, or United States Public Health Service

TABLE B-15 ANALYSES OF SURFACE WATER

CARSON RIVER, WEST FORK AT WOODSFORDS (STA. 115a)

1	_																 	
1			Anolyzed by i		nsgs													
13 14 15 15 15 15 15 15 15		J	Coliform" MPN/mi		Median 23.	Maximum 230. Minimum	9.0											
13 14 15 15 15 15 15 15 15		Tur-	- pid Liy					N	10	30	15	01	C/I	m	30	0.8		
13 14 15 15 15 15 15 15 15		Ť	8 00 Z	j E B B B B	0	0	0	0	0	0	0	0	0	0	0	0		
13 14 15 15 15 15 15 15 15			Hord Poor	ppa	33	3	31	30	16	16	8	28	31	32	28	28		
13 14 15 15 15 15 15 15 15		Per-	sod -		19	24	54	777	24	18	50	20	18	772	22	23		
13 14 15 15 15 15 15 15 15		Totol	solved solids in pom		63	63 ^e	₉ 99	59°	38£	33 ^e	16°	54e	56° 548	63°	59°	909		
1 1 1 1 1 1 1 1 1 1									PO _{1, 0.05}				Po ₄ 0.00					
1 1 1 1 1 1 1 1 1 1			Silico (SiO ₂)						15				91					
1 1 1 1 1 1 1 1 1 1		ion	Boron (B)		0:0	0.0	0:0	0:0	0:0	0:0	0.0	0:0	0:0	0.0	0:0	0.0		
13 15 15 15 15 15 15 15	million	D87							0.01				0.01				 	
13 13 11 13 11 14 15 15 15 15 15 15	151	- 1	1 N - 1 N - 1 N - 1 N N - 1 N N N N N N	(403)					0.0				0.0					
18 km 11 km 12 km 12 km 13 k		Ainba	Chlo-	(12)	0.03	1.4	0.03	1.8	1.0	2.0	2.2	0.05	1.5	1.5	1.4	0.0		
13 12 13 11 13 11 14 15 15 15 15 15 15	1								1.0				0.04					
13 12 13 11 13 11 14 15 15 15 15 15 15	stituent		Bicar- bonate	600	46 0.75	42 0.69	43 0.70	0,66	22 0.36	22 0.36	30	39	0.70	0.70	99.0	69.0		
18 kg 11.7 kg 20 11.7 kg 20 11.8 kg 20 20 20 20 20 20 20 2	eral cor		Corbon-	600	0 8	0 0	0.00	0 00	000	0 000	0.0	0.0	00:0	0.0	0 0	0.0		
18 kg 34 11.7 82 77 7.4 0.56c 0.10	Min		Potos- sium (K)						0.0				0.03					
18 km 2 11.7 82 77 7.4 0.55c 19 km 34 11.7 82 77 7.8 0.55c 17 km 33 11.7 81 81 7.7 7.8 18 km 34 11.1 83 77 7.8 0.55c 17 km 33 11.7 81 81 7.7 7.8 18 km 44 9.8 80 km 7.5 0.55c 19 km 45 8.5 8.5 8.5 6.5 7.5 0.55c 19 km 35 11.4 81 7.4 7.5 0.55c 19 km 35 11.4 81 7.4 7.5 0.55c 19 km 35 11.4 81 7.4 7.5 0.55c 19 km 35 11.4 81 7.4 7.7 0.55c 19 km 35 11.4 81 7.4 7.7 0.55c 19 km 35 11.4 81 7.4 7.7 0.55c 19 km 35 11.4 81 7.4 7.7 0.55c 19 km 35 11.4 81 7.4 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 7.7 0.57c 19 km 35 11.4 35 35 35 35 35 35 35 3					3.5	0.19	0.50	0.19	2.6	0.07	2.5	3.2	3.2	4.5	3.4	3.5		
18 km 2 11.7 82 77 7.4 0.55c 19 km 34 11.7 82 77 7.8 0.55c 17 km 33 11.7 81 81 7.7 7.8 18 km 34 11.1 83 77 7.8 0.55c 17 km 33 11.7 81 81 7.7 7.8 18 km 44 9.8 80 km 7.5 0.55c 19 km 45 8.5 8.5 8.5 6.5 7.5 0.55c 19 km 35 11.4 81 7.4 7.5 0.55c 19 km 35 11.4 81 7.4 7.5 0.55c 19 km 35 11.4 81 7.4 7.5 0.55c 19 km 35 11.4 81 7.4 7.7 0.55c 19 km 35 11.4 81 7.4 7.7 0.55c 19 km 35 11.4 81 7.4 7.7 0.55c 19 km 35 11.4 81 7.4 7.7 0.55c 19 km 35 11.4 81 7.4 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 0.57c 19 km 35 11.4 81 7.4 7.7 7.7 7.7 0.57c 19 km 35 11.4 35 35 35 35 35 35 35 3			Mogne- sium (Ma)	ñ					0.10				2.2 0.18					
18 km 34 11.7 82 77 7.8			Calcium (Co)		0.66	0.60°	0.62°	0.60°	4.4	0.32°	0.44c	0.56°	8.8	0.64°	0.56°	0.57°		
0.18chorga Tamp Dissolvad onsygen on the Cfa in of ppm %50in on the Cfa in			Ī	1	7.4	7.2	7.7	7.7	7.1	7.5	7:3	7.5	6.9	7.5	7.3	7.1		
0.18chorga Tamp Dissolvad onsygen on the Cfa in of ppm %50in on the Cfa in	;	Specific	(micrombo		77	111	81	72	14	14	8	99	77	11	72	7/2		
0.8chorgs famp Disso only 18 MD 34 11.7 17 MD 33 11.1 17 MD 33 11.1 18 MD 39 10.9 399 40 11.3 240 44 9.8 72 52 8.0 39 55 9.4 18 49 9.2 29 42 10.5 29 42 10.5 29 42 10.5 29 42 10.5 29 42 10.5 29 42 10.5 29 42 10.5 29 42 10.5 29 42 10.5 29 42 10.5 29 42 10.5 29 42 10.5 29 42 10.5 29 42 10.5 20 43 11.4 20 44 25 20 45 20 45 25 20 45 25 20 45 25 20 45 25 20 45 25 20 45 25 20 45 25 20 45 25 20 45 25 20 45 25 20 45 25 20 45 25 20 45 20 45 25 20 45 25 20 45 25 20 45 25 20 45 25 20 45 25 20 45 25 20 45 25 20 45 20 45 25 20 45 25 20 4				200	82	833	81	83	87	80	22	82	88	80	83	81		
0.schorgs Temp 10 str of s in of 11 MD 33 139 40 240 44 72 52 339 55 139 69 29 42 29 42 29 42		0.00	ORYS	_	11.7	11.11	11.7	10.9	11.3	9.8	8.0	8.5	4.6	9.5	10.5	11.4		
					3.4	82	33			77	52	57	55	64				
			in of s			17		39	339	240	72	35	39	18	59			
				1060	1/9	2/6	3/13	4/3	5/10	6/14	7/12	8/9 0905	9/13	10/4	11/8	12/13 0950		

o Field pH

b Loboratory pH.

Tron (Fe), aluminum (A1), assentic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr⁺⁶), reported here as 0.0 except as shawn. c Sum of calcium and magnesium in epm.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

g Grovimetric determination.

h Annual medion and range, respectively. Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Lobarataries, or United States Being Health Service (USPHS); Son Bernardino Caunty Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Las Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Mater Resources (DWR); as indicated.

ANALYSES OF SURFACE WATER TABLE B-15

LAKE TAHOE AT BLJOU (STA. 39)

		Anolyzed by 1		USGS													
	1	bid - Coliform"		Median 0.23	23. Minimum	<0.04 0.04 0.04											
	Tor	- bid - 17 mgd u		М	CV	٦	m	-	п	9	2	CV.	10	ч	-		
		SO N		0	0	0	0	0	0	0	0	0	0	0	0		
		Pord Ppm		41	35	33	35	31	31	30	31	35	34	34	33		
L		00 E		23	92	8	8	8	33	33	31	27	31	28	27		
	Totol	solide solide in ppm		e5e	59	61	61	60 ^f	57e	995	59°	ST ST ST ST ST ST ST ST ST ST ST ST ST S	63	62°	63		
		Other constituents						PO _{1, 0.00}				PO ₄ 0.00					
		Silico (SiO ₂)						뛰				13					
	Hion	Boron (B)		0.1	0.1	0.0	0:0	0:0	0:0	0.0	0.0	%	0.1	0:0		 	
millio	per million	Fluo- ride (F)						0.1				0.01					
ports per million	ı	rrote (NO ₃)						0:0				0.0					
å	equivolents	Chlo- ride (Ct)		1.8	3.2	3.1	2.5	3.2	2.2	3.5	2.0	2.5	0.08	1.8	3.1		
	<u>.</u>	Sul - fote (\$04)						0.05				0.05					
	Constituents	Bicor- bonote (HCO ₃)		26.0	0.80	50.82	51 0.81	0.80	62.0	177.0	51	54 0.89	26.0	54 0.89	0.90		
	Mineral con	Corbon- Ote (CO ₃)		0.0	00.00	0.0	000	0.0	0.0	0.0	0.00	0.0	0.0	00:0	00:0		
	Min	Potos- (K)						1.5				1.4					
		Sodium (No)		5.6	5.5	6.0	6.8	5.9	6.5	6.7	6.4	6.2	6.8	6.1	5.7	 	
		Mogna- sium (Mg)						0.12				3.2					
		Calcium (Ca)		0.82	0.69°	0.66	0.70	0.50	0.61	0.60°	0.620	8.8	0.68°	0.68°	99.0		
	Ø1	A H		7.5	7.9	7.5	7.4	7.6	7.6	7.5	7.7	7.5	7.3	7.4	7.3		
	Specific	conductance (micromhae at 25°C)		96	91	93	76	8	88	986	91	95	76	95	96		
		1 %		75	75	7 <u>1</u> 2	82	83	42	92	92	73	20	92	75		
		Dissolved oxygen ppm %Sc		10.0	9.6	10.5	9.5	10.1	8.3	7.5	7.8	7.8	7.8	9.1	9.6		
		a o u		%	39	3.5	9	54	96	19	农	55	52	5 7	39		
		Dischorge Temp in ofs in oF															
		and time	1962	1/9	2/6 0840	3/13	4/3 0830	5/10 0730	6/14 0715	7/12 0720	8/9	9/13	10/12	11/8	12/13 0855		

-313-

b Laborotory pH

c Sum of colcium and magnesium in epm.

c. Sum of coletum and magnessum in Epm.

d. Iron (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reparted here as \$\frac{0.0}{0.00}\$ except as shown. e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Sauthern California (MWD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Sauthern California Department of Water Resources (DWR); as indicated.

TABLE B-15
ANALYSES OF SURFACE WATER

LAKE TAHOE AT TAHOE CITY (STA. 38)

		Anolyzed by i		nscs											
		bid - Coliform		Median 0.62	Meximum 23. Minimum	<0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0.04 <0									
	- 101	o - bid -		~	н	m	-7	10	Q	9	97	CV .	0,		O
	<u> </u>	Hordness os CoCO ₃ Totol N.C. ppm ppm		0	0	0	0	0	0	0	0	0	0	0	0
		Hord 98 Cc Totol		45	L 4	33	37	34	35	32	33	34	34	34	36
	Par	sod -		22	224	27	28	28	88	32	31	27	31	82	88
	Total	solved solids in ppm		73 ^e	816	63	a†19	199	a999	63 _e	63 ^e	3 <u>63</u>	999	e5e	929
		Other constituents						ABS 0.0; PO4 0.00				As 0.00; ABS 0.0; PO ₄ 0.05			
		Silico (SiO ₂)						15				퀴			
_	million	Boron (B)		0:0	0:0	9]	0:0	0:0	0:0	0:0	0:0	0:	0.1	0:0	000
millio	per m	Flua- ride (F)						0.0				0.1			
parts per million	equivalents	rote (NO ₃)						0.0				0.0			
	equiv	Chla- ride (Cl)		1.5	0.00	2.8	0.05	3.0	2.4	3.8	2.2	2.4	4.2	1.5	3.2
	<u>-</u>	Sul- fote (SO ₄)						2.0				000			
	Constituents	Bicor- bonote (HCO ₃)		62 1.02	70 1.15	50 0.82	52 0.85	52 0.85	5 ⁴ 0.89	52 0.85	52 0.85	52 0.85	54 0.89	26.0	0.95
- 1	Mingral con	Corbon- ote (CO ₃)		0.0	0.0	0.0	0.0	0.00	0.00	000	0.00	0.0	0.0	0.0	0.00
1	Min	Potos- stum (K)						1.6				1.6			
		Sodium (No)		5.9	6.7	5.7	6.6	6.5	6.1	6.8	7.0	6.3	7.2	6.1 0.28	0.27
		Magne- Sium (Mg)						2.7				2.3			
		Calcium Magne- (Ca) Sium (Mg)		0.90	0.940	299°0	0.74c	9.5	0.70	0.64°	0.67	9.9	0.08°	0.68°	0.71
	ගේ	H.		7.6	7.3	7.5	7.4	7.4	7.5	7.9	8.0	8.0	6.9	7.5	7.5
	Specific	(micromhos ot 25°C)		109	120	93	95	66	%	76	76	76	8	76	100
		Ned (78	63	82	8	92	79	83	82	8	8	76	72
		Olsso Omy Ppm		10.1	8.0	11.1	10.2	7.00	7.9	8.1	8.0	8.5	8.2	10.7	80,
		Te of		017	27	37	92	54	3	62	62	65	92	22	38
		Discharge Temp													
		ond time sompled P.S.T	1962	1/8	2/5	3/12	1300	5/9 1010	6/12 0915	7/11	8/8 1140	9/12	10/3	1340	12/12

a Field pH

b Loborotory pH.

Sum of calcium and magnesium in epm.

Sum or calculum and measurement from the proof (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr *6), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Geological Survey, Quality of Water Benordino Caming Power (LADWP); City of Los Angeles, Department of Subhern California (WMD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Subhern California Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); as California Department of Water Resources (DWR); as indicated. Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Labarataries, as United States Public Health Service.

ANALYSES OF SURFACE WATER TABLE B-15

LAKE TAIDE AT TAHOE VISTA (STA. 37)

		Anolyzed by i		USGS													
		bid Coliform Analyzed		Median 0.62	Maximum 23. Minimum	40.0#2											
	Tur	- piq Lity Edd u		m	0	н	æ	m	٦	8	01	ന	15	7	٦		
		S S S S S S S S S S S S S S S S S S S		0	0	0	0	0	0	0	0	0	0	0	0		
				39	34	35	37	33	33	33	31	33	36	34	35		
	Par	pos pos pos pos pos pos pos pos pos pos		23	56	27	53	28	%	32	33	53	&	88	62		
	Total	solved solved solids in ppm		63	61°	65°	63 ^e	63 ^f	63°	63 ^e	63 ^e	62 ^f 61 ^R	65°	9179	63 ^e	·	
		Other constituents						PO _{1,} 0.00				Po _{t,} 0.00					
		Silica (\$0:8)						ᆌ				13					
	lion	Baron (B)		0:0	0.0	0:0	0:0	0:0	0:0	0.0	0:0	0.1	0.2	%	0.0		
millian	per million	Fluo- ride (F)	ı					0.1				0.0					
ports per millian	equivalents	trote (NO ₃)						0.00				0.0					
۵	Ainba	Chlo- ride (Cl)		2.2	3.6	3.5	1.8	3.5	2.4	3.2	2.4	0.03	3.4	1.5	3.5		
	<u> </u>	Sul - fate (SO ₄)						0.05				0.05					
	STITUEDI	Bicar- bonate (HCO ₃)		53	50	52 0.85	53	51	^{4,8} 0.79	52 0.85	52 0.85	5 ⁴ 0.89	54 0.89	0.90	54 0.89		
1000	Mineral constituents	Corbon- ote (CO ₃)		0.00	0.00	0.0	0.00	0.0	0.0	0.0	00.00	000	0 000	0.0	0 0		
1	GIM!	Potos- sium (X)						0.04				1.4					
		Sodium (Na)		5.3	5.5	5.9	6.8	6.3	5.9	7.1	7.1	6.5	6.7	6.3	6.4		
		Magne- Stuff (Mg)						0.10				0.16					
		Calcium (Ca)		0.78c	0.68°	0.70°	0.74°C	0.50	299.0	299.0	0.62	0.50	0.72°	0.690	0.70°		
	ed (Q Hd		7.6	7.5	8.0	8.0	7.4	7.5	7.9	7.9	7.1	6.0	8.2	7.3		
	Specific	conductance (micramhos at 25°C)		94	8	96	94	93	93	46	93	76	97	95	416		
				80	28	85	87	88	87	82	82	8	81	986	80		
		Oissolved oxygen ppm %Sa		10.1	10.3	11.0	10.0	10.0	9.1	7.8	7.7	9.4	8.1	9.1	9.4		
		Te ni		777	871	01	64	05	96	199	69	79	8	55	47		
		Dischorge Temp															
	9000	ond time sompled P S.T	1962	1/8	2/5	3/12 1345	14/2	5/9	6/12	0121	8/8 1245	9/15	10/3	11/7	12/12		

a Field pH

b Labaratory pH

c. sum at catchen and integers in the print of the coper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as 0.0 except as shown. I rank (Fe), aluminum (Al), arsainc (As), coper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as 0.0 except as shown. c. Sum of calcium and magnesium in epm.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

g Gravimetric determination

h Annual median and ronge, respectively. Colculated fram analyses of duplicate monthly samples made by California Department of Public Health, Division of Labaratories, at United States Public Health Service.

in Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior and Reclamation (USBR); United States Public Health (LADPH); San Bernardino County Flood Cantrol District (SBCFCD); Metropolitan Water District of Southern California Department of Water and Power (LADMP); City of Las Angeles, Department of Water Resources (DWR); as indicated.
Public Health (LADPH), Terminal Testing Laborataries, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

ANALYSES OF SURFACE WATER LAHANTON REGION (NO. 6) MOJAVE RIVER AT THE FORKS (STA. 67a.) TABLE B-15

		Anotyzed by 1			DWR											7.
		bid - Coliformality MPN/mt			6.2		<0.45 <0.45	6.2	6.2	53	623	정됐	99	23	<25>700 >700	230
	1 22	bid -			\ 25		<25	\ 25	\ 25	\ 25	425	<25	<25	10 <25	<25>	\ 25
	Ť	000 000 000	O E G G		0		0	0	0	0	0	0	0	12	0	0
L		Mardness oe CoCOs	Total		82		55	3	53	89	22	82	108	EH .	88	141
L	Par	sod -			20		32	33	37	38	9	52	53	23	19	97
	Totol	solved solids	£00 €				127		901		20		336			
		Other constituents	- 1						$PO_{1_1} = 0.05$ As = 0.00				Po _{lt} = 0.22			
		Silica	(2016)	-			121		23		ଷ୍ଟା		2			
	ro.	Boron	(i)		0,00		0.08	0.04	0.08	00.00	0,10	0.17	0.21	0.29	0.23	0.10
million	per million	Fluo-			_01		0.02	.01	8.00	01	1.4	01	3.2	01	-01	
ports per million	1 [Ni-	(NO3)			-	2.0		1.0		0.00		0.00			
ă	equivalents	Chlo-	(ĵ.)	-	10 0.28		0.20	0.11	0.11	50.14	6	11 0.31	14 0.39	16	11 0.31	0.71
1	<u>=</u>	Sul -	(\$05)				11 0.23		8.2		31 0.65		96			
	constituents	Brcar -	(HCO3)		2.06		77	56 0.92	38	96	1.82	107	132	126	127 2.08	3.04
- 1		Corbon	(00)		00.0		00.00	00.00	00.00	0.00	0.00	9.6	9.4	00.00	00.0	00.0
1	Mineral	Potos-	Œ				1.0		1.5		2.1		3.5			
		Sodium	(0 N)		37		12 0.52	0.39	15	0.83	30	41	59 2.57	3.09	62 2.70	43 1.87
		Mogne-	(Mg)				3.0		m 0		0.35		7.4			
		Colcium	(00)				17 0.85		0,80		1.05		31			
		¥.			7.3ª		7.4ª	7.68	7.4ª	7.4ª	7.83	7.6ª	7.6ª	7.7	7.5ª	7.38
	Specific	(micromhos			315		164	П	175	210	277	379	1482	565	1443	472
			%Sat		86		96	102	178	87	82	86	108	85	81.7	833
		Dissolved	6 wdd		11.6		11.6	10.8	4.8	7.2	4.9	7.6	8.8	7.6	4.8	4.8
		Temp in OF			9		#	26	9	82	78	85	8	02	28	9
		Dischorge Temp			30 est.	Crossing flooded Cannot get to station	150 est.	150 est.	30 est.	20 est.	es t	est.	est.	ů 0 0	e si	10 est.
		ond time	P.S.T.	1962	1-5 3	2-13 C	3-12	1540 1.	5-14 3(6-11 0411	7-5 5	8-1 3	9-12 1	10-4	11-5	1435

b Laboratory pH.

Sum of colcium and magnesium in epm.

c. Sum of colcium and magnesium in Epin.

d. Iron (Fe), aluminum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of the Interior. Bureou of Reclamotion (USBR); United States Department of the Interior. Bureou of Reclamotion (USBR); United States Bernardina County Flood Control District (SBCFCD); Matropoliton Water District of Southern California (WMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Water Broad District (SBCFCD); Matropoliton Water District of Southern California Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

ANALYSES OF SURFACE WATER MOJAVE RIVER NEAR VICTORVILLE (STA. 67)

		Anolyzad by i		DWR						-					
		bid - Coliform"		6.2	240 50	<0.45	23	6.0	6.2	23	240 23	62 240	88	2400 620	^4.5
	T of	- bid - yi m ppm		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	100	₹ 35	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\Z\$	\22	\Z\$	\ 225	\2S	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	22 2	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
		NO NO NO NO NO NO NO NO NO NO NO NO NO N		0	0	0	0	0	0	0	0	0	0	0	0
				145	8	148	145	143	142	143	138	142	140	146	141
L	P	sod -		39	₹	36	9	39	01	77	177	77	17		01
	Totol	solids solids in ppm			178	315		300				270			
		Other constituents						$PO_{14} = 0.46$ As = 0.00				$PO_{l_1} = 0.40$ ABS = $0.1\overline{l_1}$			
		(2015)			81	81		25				27			
	million	Boron (B)		0.00	0.10	0.10	0.00	0.12	0.10	0.11	0.12	0.12	0.10	0.12	0.10
million	per mil	Fluo- ride (F)			0.0	0.5		0.58				0.54			_
ports per million	equivolents	NI- frote (NO ₃)			0.07	3.0		2.9				0.03			
	equiv	Chio- ride (Ci)		29.	1 ⁴ 0.39	30	30	28	28 0.79	0.82	33	33	30	28	0.71
	<u>-</u>	Sul- fors (SO ₄)			30	42 0.88		41 0.86				96.0			
	stituenti	Brcor - bonote (HCO ₃)		3.12	116	3.06	3.12	3.06	3.10	3.06	159 2.60	183 3.00	182 2.98	3.02	3.04
	Mineral constituents	Corbon- Ota (CO ₃)		0.0	000	000	0.0	0.00	000	0.0	12	0.00	0.0	0.00	000
	Ž.	Polos- sium (X)			3.4	3.3		2.6				0.00			
		Sodium (No)		1.87	23	39	1.91	43 1.87	1.87	4.7 2.04	44 1.91	μ8 2.09	1.96	20 0.87	1.87 1.87
4		Mogne- sium (Mg)			6.5	0.87		0.98				7.9			
		Colcium (Co)			26 1.30	2.09		38				2.20			
		I		7.3ª	7.88	7.3ª	8.2ª	7.38	7.78	7.6ª	7.6ª	7.98	7.8ª	7.5ª	7.38
	Space	(micromhos ot 25°C)		475	298	785	463	181	1468	787	8	472	472	478	472
				72	18	87	82	92	%	42	85	#8	8	75.1	833
		Dissolved oxygen ppm %50		7.6	8.8	8.8	7.2	7.6	7.2	0.9	6.4	6.8	7.2	7.2	4.8
-				95	58	9	70	09	88	87	87	8	10	19	99
		Oischorgs Tamp		20	72	140	56	22	16	15.4	я	17.6	15.4	21	21
		ond time sompled P.S.T	1962	1-5	2-13 1500	3-12	4-2 1710	5-14 1640	6-11	7-5	8-1	9-12	10-4	1230	12-3 1600

b Loborotory pH.

c Sum of colcium and magnesium in epm.

c. Sum of colcium and magnesium in epm. I know (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexovalent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents

Grovimetric determination

32505-D-H 6-61 200 SPO h Annual median and respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Annual median and ey United States Geological Survey, Quality of Water Branch (USGS), United States Department of the International Survey and Properties and Power (LADMP), City of Las Angeles, Department of Mater and Power (LADMP), City of Las Angeles, Department of West Department of Water District of Southern California Department of Water Branch (LADMP), City of Las Angeles, Department of Mater Branch (LADMP), City of Labert (TAL), or California Department of West Resources (DWR), as indicated

ANALYSES OF SURFACE WATER TABLE B-15

LAHONTAN REGION (NO. 6)

			Anolyzed by i	USGS													
		£	bid - Coliform ity MPN/ml	Maximum 1,300.	Minimum 2.3	Median 56.											
		Tur	- bid ity In ppm	٦	50	00	25	7	н	-7	0	10	200	-	_		
			N C.	0	0	N	0	0	0	0	0	o,	0	0	0		
		:	Hordness os CaCO ₃ Total N.C. ppm ppm	75	54	76	34	35	1,0	25	83	88	35	53	04		
		Per	sod -	13	16	13	50	17	174	15	17	15	50	16	17		
		Totol	solved solids in ppm					66f				144f 1576					
			Other constituents					PO _{1, U.} 05				PO _{1, 0.10}					
		-	(SiO ₂)					72				9					
	_	llion	Boron (B)	0.0	ं।	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	of lie	per million	Fluo- ride (F)		_			0.01				0.0					
TA. 170	6	equivolents	Ni- trote (NO ₃)					0.0				4.0					
TITE (S		equiv	Chlo- ride (CI)	000	0.08	3.6	3.8	1.5	1.8	1.2	0.5	0.5	0.0	1.5	0.03		
SUSAN	9	- 1	Sul - fore (SO ₄)					1.0				1.0					
SUSAN RIVER AT SUSANVILLE (STA. 17b)	constituents		Bicor- bonote (HCO ₃)	105	68	30	46	7 <u>7</u> 7.0	0.98	34	120	128	50 0.82	<u>76</u> 1.25	56.0		
SUSAN	Mineral col		Corbon- (CO ₃)	0.00	00.0	0.00	0.00	0.00	00.0	00.00	00.00	00.00	00.00	0000	0.00		
	ž		Potos- sium (K)					0.03				2.4					
			Sodium (No)	5.0	4.6	5.3	3.9	3.5	3.5	0.09	0.33	0.32	4.2	0.50	3.7		
			Mogne- sium (Mg)					3.0				8.6					
	_		Colcium (Co)	1.50	1.08°	1.52°	0.68	9.5	36.0	05.0	1.66°	21	0.72°	1.06°	0.79°		
			H d	8.2	7.5	0.0	7.5	7:5	7.7	1.0	7.6	7.7	7.5	8.0	7.3		
		Specific	conductonce (micromhos of 25°C)	167	126	153	\$	33	66	57	183	194	88	121	93		
			151	83	20	85	æ	833	%	82	81	98	%	88	89		
			Disso	11.8	11.6	11.6	9.5	65.5	9.0	7.6	7.8	8.1	10.7	11.5	10.9		
			E OF	34	33	37	22	35	57	19	19	99	43	0 77	77		
			Dischorge in cfs	0,0	57	37	265	165	£ 4	120	3.7	2.1	500	77	230		
			ond time sompled P.S.T	1/1, 143,	2/13	3/13	4/10	5/2 1725	6/14	7/12	8/16 0830	9/18 1445	10/17	11/20	12/18		

b Loborotory pH

Sum of colcium and magnesium in epm.

Sum of cofocum and magnessium in epin.

Iron (Fe), oluminum (Al), orscite (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chromium (Cr +5), reported here as 0.0 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination

Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamption (USBR); United States Department of Water and Power (LADWP); City of Los Angeles, Department of Surher (SBCFCD); Metropoliton Water Despite Median (LADPH); City of Long Beach, Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TIL); or Colifornia Department of Water Resources (DWR); as indicated.

ANALYSES OF SURFACE WATER TABLE B-15

LAHONTAN REGION (NO. 6) TRUCKEE RIVER NEAR FARAD (STA. 53)

		Anolyzed by 1		DWR													
		Hordness bid Coliform os CaCO ₃ ity MPN/ml		Medlan 6.2	7000. Minimum	55.0											
	1	E dd u		-		77	8	0	1.2	8.5	3.5	2.2	e. e.		CV.		1
		S COS		0	0	0	0	0	0	0	0	0	0	0	0		
		Hordness os CaCO ₃ Total N.C.		64	14	54	34	23	23	31	33	30	31	27	8		
	2	e de la contraction de la cont		25	†Z	22	50	20	23	89	98	56	25	35	70		
	Total	dis- solids in ppm		19th 1	90°F	82 ^f 81 ^g	989 J ¹ 19	1461 588	45°	65 ^f 59 ^g	88 E	60 f	63 698	\$52 \$38	59f 798		
		Other constituents		PO _{1,} 0.0	PO ₄ 0.0	PO ₄ 0.1	PO ₄ 0.1	PO ₁ 0.0	Pot, 0.5	PO _{1,} 0.03	PO ₄ 0.05	Po ₁₁ 0.04	PO ₄ 0.04	POl ₁ 0.17	PO ₄ 0.02		
		Silica (SiO ₂)		81	81	22	ध्र	17	97	17	91	16	히	17	뙤		
	million	Boron (B)		0.10	0.18	0.05	0.05	0.05	0.05	0.03	0.05	0.05	9.0	0.05	0.04		
oillio .	per mi	E 80		0.0	0.0	0.00	000	0.00	0.0	000	0.00	0.0	0.00	0.0	0.0		
ports per million	equivolents	Ni- frote (NO ₃)		0.0	00.0	0.8	0.03	0.00	0.0	0.9	0.9	0.0	0.13	0.0	0.00		
	viope	Chlo- ride (CI)		5.9	$\frac{5.1}{0.14}$	0.08	2.1	0.02	0.0	0.0	2.9	0.08	0.00	3.0	0.00		
	<u>-</u>	Sul - fote (SO ₄)		5.9	5.9	7.4	01.0	0.6	0.7	0.03	1.6	1.8	1.5	0.6	1.0		
	stituent	Bicar- bonofe (HCO ₃)		1,10	1.05	0.08	41 0.67	31 0.51	31 0.51	¹⁴⁸ 0.79	51 0.84	45.0	94	39	43 0.70		
	Minarol constituents	Corbon- ott (CO ₃)		0 8	0.0	0.0	0.0	0 0	0.0	0.0	0.00	0.0	0.0	0.0	0.00		
	M.	Potos-		0.04	1.8	1.6	1.4	0.02	0.02	1.6	1.8	0.04	1.6	1.4	1.3		
		Sodium (No)		8.2	7.3	6.0	4.2 0.18	2.7	3.2	5.9	6.2	5.0	5.1	4.4	4.7		
		Mogna- mum (Mg)		3.4	4.1	4.2	2.7	0.15	1.7	1.4	1.9	0.10	2.6	2.1	2.4		
		Colcium (Co)		14 0.70	27 09:0	11 0.55	9.5	6.3	6.4	0.50	10	0.50	8.3	7.4	8.0		
	ed	H		7.6	7.5	7.7	7.2	7.2	7.5	7.7	7.7	7.0	7.5	7.5	7.3		7
	Soncific	conductance (micrambos at 25°C)		144	134	317	89	60.3	61.7	92.1	93.5	83.9	93	92	83		
-	0.	1 %		83	83	82	98	8	83	82	98	98	90	82	85		1
		Dissolve d oxygen ppm %Sc	-	11.8	11.4	11.9	11.6	10.8	9.3	8.4	0.6	8.9	9.1	6.6	10.9		
F		Teo ri		34	36	33	37	911	12	82	95	57	δ.	54	7		
		Dischorgs in cfs		011	144	199	780	1500	795	\$55¢	511	647	38	784	109		
		ond time sampled P.S.T.	1962	1/10	2/7	3/14	1/14 0915	2/11	6/15	7/13	8/10	9/1 ⁴ 0920	10.5	11/9	12/14 1055		

b Loborotory pH.

c. Sum ar calcium and inagressium in tepm.
d. Iron (Fe), aluminum (AI), arsanz (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr¹⁶), reported here as 0.0 except as shown. c. Sum of colcium and magnesium in epm.

Derived from conductivity vs TDS curves

Gravimetric determination.

Determined by addition of analyzed constituents.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Behavior. House Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR), United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior of Superior (USBP), United States Branch (USBP), San Bernardino County Flood County Flood County (USBP), Metropolitan Water District of Southern California (WMD); Las Angeles Department of Water Resources (DWR), as indicated. Department of Public Health (LADPH), City of Lap Beach, Department of Water Resources (DWR), as indicated.

ANALYSES OF SURFACE WATER

LABONTAN REGION (NO. 6) TRUCKEE RIVER NEAR TRUCKEE (STA. 52)

		Anolyzed by I		USGS													
	£	bid - Coliform ily MPN/mi n ppm		Median 2.3	230. Minimum	5000											
\vdash	- 1	- E		m	4	-	8	9	m	-	9	m	CV .	н	10		
H	<u>F</u>	N COS		2	9	13	. 	0	0	0	0	0	ч	0	0		
	:	Hardness as CoCO ₃ Tatol N.C. ppm ppm		57	911	26	43	21	19	33	33	8	8	L ₁ 3	¹ 5		
		eod - Eoi Eui		21	8	50	22	19	19	29	30	56	24	23	21		
	Total	solids in ppm		102 ^e	89	103 ^e	₃ 92	J 77	35	65e	-88 _e	69 ¹	19°	81e	79°		
		Other constituents						PO _{l,} 0.00				PO _{1,} 0.00					
	Ì	Silica (SiO ₂)						15				15					
	lion	Boron S (B)		0.0	0.0	0:0	0.1	0	0.0	0.0	0:0	0.0	0:1	0.1	0.0		
million	per million	Fluo- ride (F)						0.00				0.0					
ports per million	equivalents	Ni- trote (NO ₃)						0.00				0.0					
ă	equive	Chia- ride (CI)		4.5	4.9	6.3	4.8	1.8	0.0	3.5	2.4	2.5	6.6	2.5	4.0		
	=	Sul - fots (SO ₄)						3.0				3.0					
	constituents	Bicor- bonate (HCO ₃)		63	0.80	53 0.87	μ8 0.79	26	24 0.39	67	52 0.85	56.0	38.0	53	51		
	- 1	Carbon- ate (CO ₃)		00:0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	00:0	0.0	08.0	0.0		
	io iau ei oi	Potas- (sium (K)						10.0				1.5				-	
		Sodium (No)		7.1	6.0	6.4	5.5 0.24	0.10	0.00	6.3	6.5	6.5	0.32	5.8	5.3		
		Mogne- sium (Mg)						0.7				3.2					
		Calcium (Co)		1.14	0.93	1.120	0.86	7.2	0.38	299.0	0.66	0.50	1.00	0.86°	0.85		
	ed (o H		7.6	7.3	7.5	7.1	7.2	7.2	7.9	7.7	7.7	7.7	7.7	7.1		
	Spacific	conductance (micromhos of 25°C)		143	125	144	107	52	64	91	95	100	109	113	177		
-				82	87	85	98	8	92	99	92	79	82	99	38		
		Dissolved dxygen ppm %So		11.3	11.9	12.1	11.5	11.5	10.4	8.0	6.3	8.3	9.1	10.8	11.8		
		Te ni		36	36	3,4	82	17	2	8	59	61	22	45	33		
		Dischorge Temp		23	32	34	138	1,26	232	385	315	122	61	39	£,		
		and time sampled S.T.	1962	1/8	2/5	3/12	1000	5/9	6/12	7/11	8/8	9/12	10/3	11/7	12/12 0925		
_	-		-														

o Field pH

b Loboratory pH.

c Sum of calcium and magnesium in epm.

c. Sum of calctum and magnessum in tepm.

d. Iron (Fe), aluminum (A1), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexovalent chromium (Cr*⁵), reported here as 0.00 except as shown.

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination

Mineral analyses made by United States Geological Survey, Duality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Water Colifornia (WMD); Los Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL), or Colifornia Department of Water Resources (DWR); os indicated. h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Divisian of Laboratories, or United States Public Health Service.

ANALYSES OF SURFACE WATER TABLE B-15

LAHONTAN RECION (NO. 6)
WALKER RIVER, EAST NEAR BRIDGEPORT (STA. 116a)

	Anglyzed	by 1		nses								·			
	Cotiform	n ppm MPN/mi by i		Median 23.	Maximum >7000. Minimum	0.62									
	- pig	Ity In ppm		m	15	01	10	2	2	15	10	15	6	00	w
	8880	00 2		0	0	0	0	0	0	0	0	٥	0	0	0
	Hord	Totol		8	18	89	8	69	29	54	19	70	778	77	81
	Cent	Pos -		82	35	27	57	8	8	35	33	30	29	28	62
Tatal	-Sip	solved solved in ppm		203	188°	266	286°	153 ^f	147°	110 ^e	120°	118 ^f	142e	148e	150°
		Other constituents						PO ₄ 0.25				PO ₄ 0.10			
		(SiO ₂)	1					55				5.0			
r lion	L	Boron (B)		15	0:0	4.0	0.5	0.1	15	0.1	0:1	0:1	0:1	0.1	0.1
millio m m		Fluo- ride (F)						0.0				0.0			
parts per million equivalents per million		rote (NO ₃)						0.4				0.7			
equivo		Chlo- ride (CI)		6.5	5.9	21	18	5.5	0.12	0.12	3.6	2.0	2.9	2.6	0.12
<u> </u>		Sul - fote (SO ₄)						21 0.04				12 0.25			
stituents		Brear- bonate (HCO ₃)		2.38	2.33	156	174 2.85	109	1.80	81 1.33	1.54	877.	116	2.00	2.03
Mineral constituents		Carbon-		0.00	0.00	0.0	0.0	0.00	0.0	0.0	0.0	0.33	0.00	0.00	0 0 0
Ž		Potas- (X)		0.11				0.10				3.8			
		Sodium (No)		28	23	2.13	2.39	21 0.91	19	13	14 0.61	15	15	14 0.61	0.65
		Mogne- sium (Mg)						4.6				4.3			
		Coterum (Ca)		1.84c	1.88c	1.78	1.80c	1.00	1.34c	1.08	1.22c	21 1.05	1.56	1.54c	1.62°
ਰ	IQ H	<u>.</u>		7.6	7.4	8.0	7.6	7.6	7.9	8.1	7.6	8.3	8.4	8.2	7.6 8.0
Spacific	onductance	(micramhos of 25°C)		301	279	395	425	559	218	163	178	197	210	220	553
		10		72	11	82	7/	48	1	69	æ	81	72	97	82
	Discolved	ppm %		8.8	8.7	9.8	9.5	-7°.	7-7	6.7	7.0	7.6	7.4	9.8	10.6
		- 1		777	77	24	24	9	9	63	69	69	92	87	07
	Discharge Temp	in of a		1.4	5.8	5.8	95	231	251	338 MD	262	239	80	16	a
		sampled P S.T.	1962	1/9	2/6	3/13 1500	1345	5/10	6/14	052T	8/9	9/13	10/4	11/8	12/13

b Lobarotory pH.

c Sum of colcium and magnesium in epm.

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Derived from canductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Water and Power (LADWP); City of Los Angeles, Department of Surviver (USPHS); San Bernardino Country Flood Canter District (SBCFCD); Metropolitan Water District of Southern California Oppartment of Water Resources (DWR); city of Los Angeles, Department of States California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

ANALYSES OF SURFACE WATER

LAHONTAN REGION (NO. 6)
WALKER RIVER, WEST NEAR COLEVILLE (STA. 116)

		Analyzed by §		nsgs													
		bid - Coliform		Median 2.3	Maximum 7000. Minimum	0.12											
		pid-		co.	15	5	-3	50	5	10	9	N	m	Q	а		
		N C		0	0	0	0	0	CV.	0	0	0	0	0	0		
			Egg	53	36	414	0 4	17	15	14	56	64	50	35	4.3		
	0	000 E		μl	20	94	27	22	19	72	23	27	33	34	14.3		
	Total	solved solids in ppm		109	77 _e	110e	999	31 ^f	25°	56°	43e	85 ^f 828	8h ^e	74e	103e		
		Other constituents						PO ₁₄ 0.05				PO _{1,} 0.00					
		Silico (\$10 2)						8.6				13					
	Illon	Boron (B)		잉	0:0	0.2	0.0	0:0	0.0	0:0	0.1	0:0	0.1	0:0	0.1		
millior.	per million	Fluo- ride (F)						0.01				0.01					
ports per million	equivolents	trate (NO ₃)		-10				0.00				0.00					
-	equiv	Chlo- ride (CI)		3.9	3.2	6.5	3.7	1.5	1.5	0.05	1.9	0.05	0.11	3.5	4.0 0.11		
- 1	- 0: 8	Sul - fate (SOs)	_					1.0				8.0					
	constituents	Bicar - bonate (HCO ₄)		84	56 0.92	78	54 0.89	0.36	16 0.26	20	33	77.	1.11	59 0.97	79		
	Mineral car	Corbon - 016 (CO ₃)	,	00:0	00.00	0.0	00.0	00.0	00.0	0.00	00.0	0.00	0.00	0.00	0.00		
:	Min	Potos- srum (X)						0.0				0.9					
		Sodium (Na)		17	7.1	17 0.74	6.6	2.3	1.6	0.00	3.3	8.5	9.6	8.6	15		
		Magne- sium (Mq)						0.10				2.8					
		Colciun (Ca)		1.06	0.72°	0.81	0.80	0.24	0.30c	0.28°	0.52	15 0.75	1.00°	0.716	0.86°		
		i.		7.6	7.2	7.6	40.8	7.2	7.3	7.1	7.3	7.5	7.5	7.4	7.3		
	Specific	(micromhos		191	105	162	101	h 5	37	38	63	134	125	110	152		
				80	80	۳,	89	84	62	78	833	88	81	98	42		
		Dissolved oxygen	_	11.4	11.6	25.52	11.1	φ.	10.3	9.1	8.6	8.9	9.5	10.7	11.1		
		Temp In of		34	33	8) 8)	143	83	9	841	57	65	17	43	35		
		Discharge Temp		31 MD	37	DW 07	011	908	866	525	232	63	27	777	37 MD		
		and time sampled	1962	1/9	2/6	3/13	14/3	5/10	6/14	7/12	8/9 0011	9/13	10/4	11/8	12/13		

b Laboratory pH

c. Sum of calcium and magnesium in epm.

To the community of the

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Gravimetric determination

h. Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of Marer and Power (LADWP), City of Las Angeles, Department of Southern California Gawa). Los Angeles Department of Water and Power (LADWP), City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); City of Lang Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated.

22505-D-8 6-61 200 SPD

ANALYSES OF SURFACE WATER TABLE B-16

COLORADO RIVER BASIN RECION (NO. 7) AIAMO RIVER NEAR CALIPATRIA (STA. 60)

		Analyzed by i	DWR	DWR	TT	DWR		DWR	DWR
	-	Hardnass bid - Coliform's os CoCO ₃ ify MPN/ml Total N C ppm	230	2400 62		240 240	620	2400	620
	Tor-	- bid - ity mgg u	100	250		200		00 1 1	300
		OCO S N C PPM	913 100	710	598	658	635	959	192
			1129	885	770	833	811	827	946
	Cont cont ds sod -		95	52	₹	53	54		4
	Total	solids in ppm	3230	2310	2240	2300		2410	
		Other constituents			$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Po ₁₁ = 0.70		Po ₁₁ = 0.30	
		(SiO ₂)	112	19	0/1	레		17	
-	million	Boran (B)	0.72	0.42	0.46	0.50	0.52	0.56	0.52
aillie.	par m	Fluo- ride (F)	1.4	0.0	0.70	0.76		0.66	
ports per million	aquivalents	Ni- trate (NO _S)	27 0.14	18	90.0	0.32		16	
	aguiv	Chlo- rids (CI)	1000	630	574	620	590	670	21.77
	fs in	Sul - fots (SO ₄)	 853	710	698 14.55	711		73 ⁴ 15.29	
	onstituen	Bicor – bonots (HCO ₃)	264	214	3.44	3.80	3.52	3.44	3.04
	Mineral constituents in	Corban- (CO ₃)	00	0.00	000	000	010	000	0.00
	ž	Potas sum (K)	10	10	0.30	0.31		0.31	
		Sodium (Na)	663 28.84	1448 19.49	18.60	438 19.05	1412 19.23	475	518 22.53
		Magne- sium (Mg)	139	9.34	78 5.144 6.144	96		96 7.89	
		Calcium (Ca)	223	168	8.96	178 8.88		17th 8.68	
		I	7.78	7.88	7.6	7.9ª	7.98	7.98	-4-6
	Specific	conductonce (micromhos of 25°C)	4789	3460	3219	3401	3372	3492	3360
			68	68		74	97	91	4.56
		O1880 O8ye	9.5	80.		6.8	7.6	6.8	₹°€
		Tamp In OF	22	19	200	8	48	8	2
		Dischorge Tsmp	111	866	995 est.	1069	1211	1050	950
		Oate ond time sampled P.S.T	1962 1-3 1415	3-6	3-13	5-10	7-3	9-1, 1715	1610

b Laboratory pH.

c Sum of colorum and magnesium in epm.

e. Sum of colcium and magnesium in spm. d. Iran (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reparted here as $\frac{0.0}{0.00}$ except as shawn.

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Grovimetric determination.

h Annual median and ronge, respectively Colculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Hoolth Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Matropolitan Water District (SBCFCD); Matropolitan Water District (SBCFCD); Matropolitan Water District (SBCFCD); Matropolitan Water District (SBCFCD); Matropolitan Water District (SBCFCD); Matropolitan Water Mater and Power (LADWP); City of Las Angeles, Department of Water Resources (DWR), as indicated.

Public Hoolth (LBDPH); Terminal Testing Laboratories. Inc. (TTL); or California Department of Water Resources (DWR), as indicated.

32505-D-H 6-61 200 SPC

ANALYSES OF SURFACE WATER COLORADO RIVER ELSIM REGION (**1.7)
ALAMO RIVER AT INTERNATIONAL BOUNDARY (STA. 59)

		70							
		Analyzed by i		DWR					
	4	bid - Caliform" Ify MPN/ml		2.3	0 n	5 [†] †	~ ~ ~	62	a la o to
	- L	- piq		9	30	50	\ 25	\ 25	<25
		CO.S.		802	7774	846	1005	9101	522
		Hardness as CaCO ₃ Tatol N C		1124	1039	1134	1288	1293	767
L	9	sod -		9	179	61	63	9	6
	Tatal dis- solved solids in ppm			3549		3740	4365	1,730	
		Other constituents				$P0_{l_1} = 0.08$ As = 0.00		Po _{tt} = 0.08	
		Silica (SiO ₂)		12		174	ฤ	泛	
	million	Baran (B)		1.52	1.62	1.60	8	2.25	11.8
million	per mil	Fluo- ride (F)		0.03		0.76	0.06	0.98	
parts per	equivalents	Ni- trate (NO ₃)		9.9		00	8.7	5.0	
٩	equiv	Chlo- ride (CI)		1010	1040	1080 30.46	1340	1540	19.51
		Sul - fote (SO ₄)		1044		1136	1248 26.01	1287	
	Constituents	Bicar- bonafe (HCO _S).		393	323	351	345	334	17-1-1
	MINGRAI CO.	Corbon- ofe (CO ₃)		0000	0.00	00.00	00.00	000	00000
	CIN.	Potas- sium (K)		10		14 0.36	13	0.31	
		Sodium (No)		789	842 36.63	36.54	1008	1050	23•19 23•19
		Colcium Mogna- (Ca) sium (Mg)		141		130	174	230 18.19	
		Colcium (Ca)		7.58 218		242 12.08	5 1.43	242 12.08	
		I		7.58	7.5ª	7.5ª	7.38	7.58	7.68
	Specific	conductonce (micromhos at 25°C)		5236	5345	5348	6447	6702	3808
				89	6	100	72	20	72.8
		Disso		4.6	80	8,4	5.6	14.0	8
		E O C		26	20	@ 	[†] 63 [†]	82	<u>\$</u>
		Dischorge Temp		2 .2	2.	Q	m	CV.	φ
		ond time sampled P.S.T	1962	1-3	3-6	5-10	7-3	9-5	0610

Laboratory pH.

Sum of calcium and magnesium in epm.

Join of Lactorium (Al), prospect (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reported here as 0.0 except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

g Gravimetric determination.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior. Surreau of Reclamation (USBR); United States People (USPHS); San Bennordino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (AWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Water District (SBCFCD); Metropolitan Water District of Southern California Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annual median and ronge, respectively. Colculated from analyses of duplicate monthly samples mode by Colifornia Department of Public Health, Division of Lobaratories, or United Stotes Public Health Service.

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TABLE 6-16

ANALYSES OF SURFACE WATER COLORADO RIVER PA. IN 46B FOIL (140, 7)
ALL AMERICAN CAUAL NEAR PLIOF GROE STA. 50°)

	mh Anolyzad			USACL	DWR	DAR
	£	MPN/mi			<#**	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	Tur- Bid- -fy moon			219 Clear	\ 25	\ \ \
	Hardness bid - Califormh as CoCO ₃ 119 MPN/ml Tatal NC			219	231	23.5
				362	373	367
	Sod -			742	143	77
	Total dis- solved solids			856	823	9862
		Other constituents			$PO_{1_1} = 0.00$ As = 0.00	Po ₁ = 0.02
	-	(S:02)		위	12	477
c	Ilron	Baran (B)		0.17	0.17	0.18
OILLE	per million	Flug- ride (F)		0.0	0.67	7.000
parts per million	equivalents	rrate (NO ₃)		1. th	0.03	0.03
	edni	Chlo-ride (CI)		3.47	123	3.53
	N .	Sul - fote (SO ₄)		314	327	338 -7- • 05
	nstituen	Bicar- bonate (HCO ₃)		174 2.85	173 2.84	25.64
	Mineral constituents	Corbon- ots (CO ₃)		000	0.00	8.
	Σ	Potas- sium (X)		5.8	5.3	4 [[
		Sodium (No)		125	134	134 33 • 33
		Magner Sium (Mg)		30	32	5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5
		Calcium (Co)		95	18° 1	76 76
		E 800		8.2	8.08	6
	Spacific	(micrambos at 25°C)		1200	1311	1631
		Oxygen ppm %Sat			76	101
		Disso			7.6	φ.
		Te or		Ω.	20	8
		Dischorga Tamp			6010	09760
		and time sompled P.S.T	1962	2-19	5-16 1200	1100

a Field pH

b Laboratory pH.

c. Sum of calcium and magnesium in epm. desp. capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*6), reparted here as $\frac{0.0}{0.00}$ except as shown.

f Determined by addition of anolyzed constituents. e Derived fram conductivity vs TDS curves

Gravimetric determination.

h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division af Laboratories, or United Stotes Public Health Service.

3255-0-4 6-61-200 SE0 i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Survey and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water and Power (LADPH); The Manual Constitution of Mater Beach, Department of Water Resources (DWR); Wither Angeles, Angeles, Constitution and Laboratories (USACL) as Instituted as Instituted Carlot on Sand Carlot of Carlot on Sand Carl

32505-D-4 6-61 200 370

ANALYSES OF SURFACE WATER COLORADO RIVER BASTH REGION (NO. 7) COLORADO RIVER NEAR BLYTHE (STA. 56c)

		Anolyzed by i		DWR	DWR	
		Hordness bid - Coliform A ce CoCO ₃ ity MPN/mi Tarol N.C. nppm ppm ppm		99	23	
	Tur	- Piq - Piq - Piq		\ 25	V 25	
		Hordness oe CoCO ₃ Tatol N.C. ppm		220	228	
	Hord Os C Tatol			352	353	
	Par- cent sod -			40	040	
	Tatal dis- solved solids in ppm			734	7,22	
		Other canstituents		Po ₁ = 0.08 As = 0.00	Po ₁ ,= 0.04	
		(SiO2)		위	13	
_	million	Boron (B)		0.15	0.15	
aillie.	per mi	Fino- ride (F)		0.58	0.60	
parts per million	equivalents	rote (NO ₃)		2.8	1.4	
ľ	aguiv	Chlo- ride (Ci)		2.71	100	
	⊆ .	Sul - fate (SO4)		306	315	
	constituents	Bicor- bonate (HCO ₃)		161	153	
	Mineral con	Carbon- ote (CO ₃)		0.0	000	
	Mic	Potas- sium (K)		5.0	5.2	
		Sodium (No)		109	11.1	
		Magne- sum (Mg)		2.30	32 2.67	
		Calcium (Co)		4.74	4.39	
		F F		8.0	8.0	
	Specific	conductonce (micromhos of 25°C)		1764	1144	
				95	102	
		Dissolvad axygan ppm %So		4.8	8.0	
		E C C		72	98	
		Discharge Tamp		11000 est	10000 eet	
		ond time sampled P S.T	1962	5-15 1	9-18	

a Field pH

b Laboratary pH.

c Sum of calcium and magnesium in epm.

c. Sum of calcium and magnesium in epm.

d. Iron (Fe), aluminum (A1), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chramium (Cr⁺⁵), reported here as 0.0 except as shown. Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents

Gravimetric determination.

h Annual median and ronge, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Department of the Interior, Bureau of Reclamation (USBR), United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR), United States Department of Water Branch (USBR), United States Department of Water and Power (LADWP), City of Las Angeles, Department of Southern California (WMD), Los Angeles Department of Water and Power (LADWP), City of Las Angeles, Department of Public Health (LADPH); City of Las Branch (LADPH), Taminol Testing Labaratories, Inc. (TTL); or California Department of Woter Resources (DWR); as indicated.

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ANALYSES OF SURFACE WATER

COLORADC HIVER BALIN REGION (NO. 7) COLORADC HIVTH AT SCLCANDO RIVER ACCUPANT INTAKE (STA. 56d)

	Anolyzed by i		MAD		-								
	Hardness bid - Caliform as CoCO ₃ 117 MPN/mi Total N C ppm												
	- bid - fy mpg u		6.0	1.0	1.5	9.0	0.3	0.3	0.7	0.2	0.3	0.3	0.3
	P N N N N N N N N N N N N N N N N N N N		215	213	212	212	223	332	230	526	220	225	525
	Hardr as Co Total ppm		337	334	335	334	346	336	336	331	331	339	343
-	Sod -		<u></u>	% %	37	<u>ه</u>	& &	39	9	39	17	-	9
Tatal	solved solves solids in ppm		684	129	677	681	710	669	711	969	704	704	732
	Other canstituents		Free CO ₂ = 1 ppm	Free $CO_2 = 1 \text{ ppm}$	Free CO ₂ = 1 ppm	Free CO ₂ = 1 ppm	Free CO ₂ = 1 ppm						Free CO ₂ = 1 ppm
-	Baron Silico (B) (SiO ₂)		9.3	9.1	9.3	9.3	0/1	임	웨	위	9.8	10.1	6.6
millian per million	Fluo-Bar		0.02	0.02	7.00	0.0	0.02	0.02	0.02	0.02	0.5	7.0	ग ं 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
6			1.6	0.0	1.4	2.3	2.2	2.3	0.03	1.6	1.5	1.6	2.00 00 00 00 00
ports p	Chia- ride (CI)		2.54	2.51	85	88	89	2.62	96	94 2.65	96	46	2.71
Ē	Sul - fore (SO ₄)		290	289	290	6.01	309	304	314	306	306	307	315
tituents	Bicar – bonate (HCO ₃)		2.44	140 2.30	148 2.43	2.33	1 ⁴ 3	138	124 2,03	128 2.10	131 2-15	134	2.14
Mineral canetituents	Carbon- Ote (CO ₃)		000	4 0.13	0.03	h 0.13	14 0.13	000	0.07	000	0.07	0	0000
Min	Potos- Sium (K)	-	50.13	5 0.13	6 0.15	50.13	5	5 0.13	5 0.13	5	0.10	5 0.13	0.13
	Sodium (No)		4.22	95	4.09	96	100	100	104	101	106	100	109
	Mogne- sum (Mg)		28.5	29	2.30	2.34	30	30	30	30	30	29.5	30 2.47
	Colcium (Ca)		14.39	86 4.29	88 4.39	1.34	90 1.49	86	86	884 1.19	83 4.14	4.34	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
	ī		8.3	8.48	8.48	8,3	8.48	7.9	8.5	8.3	8.46		φ
	conductance (micramhos at 25°C)		1080	1050	1065	1055	0111	3115	1105	0111	0177		1130
	Dissolved anygen												
	To an		50	53	55		47	82	80	80		69	61
	Discharge Temp												
	ond time sompled P.S.T	1962	1-16	2-13	3-13	1000 1000	6-5	7-3	8-22	7-6	10-2	11-21	12-4

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

Sum of calcium and magnessium in epin.

Iran (Fe), aluminum (A1), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chromium (Cr.*6), reported have as 0.00 except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents

Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service. Gravimetric determination.

32505-0-8 6-61 200 3PG Mineral analyses made by United States Gealogical Survey, Quality of Water Branch (USGS); United States Department of the Interior, Survey of Reclamation (USBR); United States Public Health Service (USPHS); Son Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern Colifornia (MWD); Las Angeles Department of Mater Resources (DWR); as indicated.
Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); ar Colifornia Department of Water Resources (DWR); as indicated. TABLE B-16

ANALYSES OF SURFACE WATER COLORADO RIVER BASIN ROLON (NO. 7) COLORADO RIVER BELOM MORELOS DAM (STA. 56b)

	P				
	Analyzed by i		DWR	DWR	
1	Hardness bid - Catiform's as CaCO ₃ ify MPN/mi Tatal N.C. ppm		230	23	
1 5	- pdd - pgd		9	V 552	
	N COS		267		
	As Co Tatal PPM		755	629	
9	nent inm		75	22	
Total	solved solids in ppm		2082	1632	
	Other constituents		$Po_{1_1} = 0.08$ $As = 0.00$	Po ₁₁ = 0.06	
	Silico (SiO ₂)		허	8	
lian	Baran (B)		0.47	0.39	
per million	Fluo- ride (F)		0.88	0.70	
parts per millian equivalents per mill	rrote (NO ₃)		3.7	1.4	
po	Chia- ride (Ci)		673 18.98	12.38 12.38	
č	Sul - fote (\$04)		10.33	10.05	
tifuente	Bicor – banate (HCO ₃)		3.76	3.62	
Mineral canetituente	Carban- ate (CO ₂)		0.00	8.00	
Mine	Patas-C Sum (X)		6.5	4.9	
	Sadium (Na)		418 6 18.18 0	311 6	
	s -aubu suum (Mg)		73 4	28 4 30	
	Calcium Magne- (Ca) sium (Mg)		182 9.08 7	156 7.78 4	
	F O		7.78	1-7 A	
	(micromhos pH of 25°C)		3314	2501	
0	tved Con		84	135	
	Diesolved axygen ppm %Sa		9.2	9.6	
			88	26	
	Discharge Temp		1540		
	ond time sampled	1962	5-15	9-5	

u Labaratory pH.

Sum of calcium and magnesium in epm.

Sum of calcium and magnessum in epm. I capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Gr⁺⁵), reported here as 0.0 except as shawn. Iran (Fe), aluminum (Al), areance (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Al), areance (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Al), areance (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Al), areance (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Al), areance (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Al), areance (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Al), areance (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Al), areance (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Al), areance (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and areance (As), areance

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR), United States Ceological Survey, Quality of Water Branch (USPHS); San Benardino County Flood
Cantral District (SBCFCD); Metrapolition Water District of Southern California (AWD); Las Angeles Department of Mater and Power (LADMP); City of Lang Beach, Department of Book (LADPH); City of Lang Beach, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR), as indicated. h Annual median and range, respectively Calculated from analyzes of duplicate monthly samples made by California Department of Public Health, Divisian of Labarataries, or United States Public Health Service.

ANALYSES OF SURFACE WATER COLORADO RIVER BASIN MACION (NO. 7) COLORADO RIVER BELOW PARCER DAM (SIA. 55) TABLE B-16

_						7
	Analyzed by i			DWR	DWR	
	Hardness bid - Caliform as CoCO ₃ pign MPN/mi			. H . S	N. C.	
	- q-			\ 25	\ 25	1
	000	o E		¥50	220	
	Hord os Co	Total		345	340	
	Cent Sod	5		39	01	
	solved	mag ni		089	738	ı
		Other constituents		Pol _{tt} = 0.00 As = 0.00	Po _{1,} = 0.03	
	Silico	(20:5)		피	12	
	5	(8)		0.14	0.14	
million		(F)		.64	0.50	
15		(NO ₃)		† † o · o	3.0	
a	Chlo-	(Ci)		91 2.57	2.62	
٤	Sul -	(504)		299	308	
constituents		(HCO ₃)		157 2.58 6	2,40	
Mineral can	- uarbon -	(CO ₃)		0.00	00.0	
N	Potos-	Sug (K)		0.13	5.0	
	Sodium	(No)		104	106	
	Mogne-	(6M9)		30	29	
	Calcus	(Ca) 11.10m (Mg)		8.0ª 90 1.19	7.88 88	
L	Ŧ			80.	7.8	
	Specific conductonce (micromhos	of 25°C		1133	1104	
		%Sot		100	100	
	Dissolved	9		8.8	4.0	
	Temp In of			72	78	
	Dischorge Temp			15000		
	Date ond time		1962	5-15	9-18 0630	
						4

b Labaratory pH

c Sum of colcium and magnesium in epm.

c. Sum of colcium and magnesium in epm. d. (Pb), read (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown. d. tron (Fe), oluminum (Al), areance (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents

9 Gravimetric determination.

i Mineral onalyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Water and Power (LADMP); City of Las Angeles, Department of Labert); City of Lang Beach, Department of Suthern California Department of Water Resources (DMR), as indicated. h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

32505-D-8 6-61 200 SPO

ANALYSES OF SURFACE WATER COLORADO RIVER BATTI HELTON (MO. 7) COLORADO RIVER HEAR TOPOCK, ARIZONA (STA. 54)

b Laboratory pH.

c. Sum of calcium and magnesium in epm

A tron (Fe), oluminum (Al), respect (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr²3), reported here as $\frac{0.0}{0.0}$ except as shown.

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves

Gravimetric determination

h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

TABLER-16

ANALYSES OF SURFACE WATER COLORADO RIVER DASTR REGION (NO. 7) COLORADO RIVER NEAR YUMA (STA. 56)

	Anolyzed by i		TOWER	DWR	DMR
	bid - Coliform A ity MPN/mi			0, 0, 0, 0,	ณ ค ง ๋ ฉ่
1	- E		22	20	
	N COS		1034	602	633
	Hardness as CaCO _S Total N.C. ppm ppm		1258 10	912	818
0	and and and and and and and and and and		475	56	99
Total	solved solved in ppm		3664	2611	2343
	Other canstituents			Poh = 0.00	Po _{1, =} 0.00
	Silica (SiO ₂)		19	138	<u>ଷ୍</u>
lion	Boron (B)		0.80	0.60	0.61
million per mi	Fluo- ride (F)	ì	0.8	0.00	60.0
parts per million equivalents per mill	ni- trate (NO _S)		1.8	2.5	0.13
Paduivo	Chio- ride (Ct)		1254 35.35	900 25.38	22.55 55.55
Ē	Sul - fote (SO ₄)		683	563 11.72	11.36 11.36
stituent	Bicor – bonote (HCO ₃)		273	248	3,56
Mineral constituents	Corbon- ote (CO ₃)		000	0000	8
Σ	Potas- sium (K)		7.5	9.0	0.20
	Sodium (No)		687	533 23.19	21.10
	Mogne- sium (Mg)		127	89 7.36	81.63 6.63
	Colcium Mogne-		295	218	9.73
	Ĭ.		8°0,	7.8	ο. ε
0	(micromhos at 25°C)		14800	4144	3903
	gen (r			68	128
	Disso			8.0	9.
	10 or		9	70	8
	Orschorge Temp			1340	
	ond time sompted P S.T.	1962	2-19	5-16	1500

b Laboratory pH.

c. Sum of calcium and magnesium in epm.

c. Sum of calcium and magnessium in spm.

d. Iron (Fe), oluminum (AI), arseric (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr 's), reported here as \$\frac{0.0}{0.00}\$ except as shown

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents

Gravimetric determination.

h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

32505-0-4 6-61 300 spo i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR), United States (USPHS), San Bernardina County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (WMD); Los Angeles, Department of Water and Power (LADMP); City of Las Angeles, Department of Water Resources (DMR); "Inited in the Service of Southern California Department of Water Resources (DMR); "Inited in the Service of Southern California Department of Water Resources (DMR); "Inited in the Service of Southern California Department of Water Resources (DMR); "Inited in the Service of Southern California Department of Water Resources (DMR); "Inited in the Service Southern California Department of Water Resources (DMR); "Inited in the Service Southern California Department of Water Resources (DMR); "Inited in the Service Southern California Department of Water Resources (DMR); "Inited in the Service Southern California Department of Water Resources (DMR); "Inited in the Service Southern California Department of Water Resources (DMR); "Inited in the Service Southern California Department of Water Resources (DMR); "Inited in the Service Southern California Department of Water Resources (DMR); "Inited in the Service Southern California Department of Water Resources (DMR); "Inited in the Service Southern California Department of Water Resources (DMR); "Inited in the Service Southern California Department of Water Resources (DMR); "Inited in the Service Southern California Department of Water Resources (DMR); "Inited in the Service Southern California Department of Water Resources (DMR); "Inited in the Service Southern California Department of Water Resources (DMR); "Inited in the Service Southern California Department of Water Resources (DMR); "Inited in the Service Southern California Department of Water Resources (DMR); "Inited in the Service Southern California Department of Water Resources (DMR); "Inited in the Service S

ANALYSES OF SURFACE WATER

COLORADO RIVER EASTN RECION (NO. 7)
NEW RIVER AT INTERNATIONAL BOUNDARY (STA. 57)

	Anolyzed by i		DWR					
				0.0	00	0.0	0.0	00
	Hordness bid - Caliform as CaCO ₃ ity MPN/ml		6200	40 700000 240000	62000	23000	700000	13000
1	- Piq		200		9	3. 25	35	0
	Hordness de CaCO _s Totol N C		421	62.3	1026	808	3 917	232
			109	1050	3690	1010	1113	407
	S S Od -		8 60	6 63	759 0	65	8 67	1 9
Tafa	solved solids in ppm	ļ	1938	3546	3690		14398	
	Other constituents			PO ₁ = 1.8 ppm ABs detergent 0.56	$PO_{l_1} = 0.68$ $As = 0.00$ $NH_{l_1} = 1.8$		Po _{tt} = 1.00	
	(Silico (SiO ₂)		15	72	Si Si		%]	
High	Boron (B)		0.62	1.12	1.12	1.18	1.68	9.89
Der mi	Flug- ride (F)		0.00	0.0	0.0		1.0	
parts per million valents per mil	rrote (NO3)		10	12	2.5		14.0	
parts per million equivalents per millian	Chio-		630	1515	1390 39.20	34.26	1765 1	
1.0	Sul - fate (SO ₄)		447 9.32	633	724 15.03		780	25.34 25.34
stituents	Bicar – banote (HCO ₃)		3.72	270	264	246	3.92	3.44
Mineral constituents	Carbon- ofe (CO ₃)		00.00	00	0000	00.00	00.00	800
Mine	Potos- Sium (X)		16	1.10	34 0.87		1.23	
	Sodium (No)		426 18.53	852 37.06	37.41	868	1076	25.23 25.23
	Magne- Sium (Mg)		57	128	9.29	0101	134 11.03	unta
	Colcium Magne-		7.44	210	11.23		11.23	
	Ę		80	00 00	80.8	8.18	8,1,8	82.
Specific	(micromhos at 25°C)		3078	5618	5587	5869	6830	4013
	1 5		79	82	77	R.	99	\$
	Dissalved oxygen ppm %Sc		0.8	0.	0.9	4.8	4.4	φ. -
	Ten or		09	49	78	18	87	8
	Discharge Temp		984	143	136	92	150	176
	sampled Sampled	1962	1-3	3-6	5-10	7-3	9-5	0710

Loboratory pH.

Ison (Fe), aluminum (Al), asserted (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Ci⁻³), reported here as 0.0 except as shown. Sum of calcium and magnesium in epm.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents

Grovimetric determination

32505-0-8 6-61 200 SPG h Annuol median and ronge, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Survey of Reclamation (USBR); United States Pepartment of Water and Power (LADMP); City of Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Water District of Southern California Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE 8-16

ANALYSES OF SURFACE WATER COLORADO RIVER BASIN REGION (NO. 7) NEW RIVER NEAR WESTMORIAND (STA. 58)

	Analyzed by i			DWR	DWB	TIL	DWR			
	Hordness bid - Coliform os CoCOs ity MPN/mi			6200	23000		2400	23000	2100	3300
	bid -			88	300	Clea	001	300	92	
	\$000 000 000 000	O E		920	602	8	629	269	639	1199
	Hordr Os Co	Totol		1150	216	790	875	88	827	85h
	Per-			1 9	63	75	3	79	62	62
Totol	solids solids	in ppm		3924	3061	2880	2815		2730	
						MH ₄₁ = 1.95 Total N = 3 NO ₂ = 0.413 NO ₄ = 3.25 ABS = 0.80 BOD = 2	$PO_{14} = \frac{0.56}{0.00}$ As = $\frac{0.00}{0.00}$		Pol = 0.50	
	Silico	(S:02		켒	ৱা	긔	77		ଥା	
on	Boran	<u>@</u>		1.18	0.9	97.0	0.88	0.98	0.84	₹8°0
per a	F Co	Ē.		0.00	0.03	0.04	0.04		0.08	
parts per million equivolents per million	- i	(NO _S)		0.35	20	50.08	12 0.19		0,16	
d Ainbe	Chlo-	(i)		1480 41.74	1050	26.47	950	945	26.93	27.50 27.50
e.	Sul -	(\$0\$)		732 15.25	669	13.65	691		679	
constituents	Bicor-	(HCO ₃)		281	248	3.80	3.92	3.76	3.76	3, 48 3, 48 3, 48
Mineral con	Corban-	(CO)		000	00	00.00	0.00	00	000	8.00
Min	Polos-	(X)		200	20	0.55	18		174	
	Sodium			940	720	29.50	630	633	645	77,80 77,80
		(Mg)		9.57	8.16	102 8.36	93	_	98	
	Coterum	(00)		231	202	7.44	199 9.93		172 8.58	
	I			7.8ª	7.9ª	7.60	7.5ª	7.3ª	7.6ª	ο. Θ.
Spacific	conductance (micromhos	01 25 U		6026	11.1.1	243	4310	4378	Lo14	9644
	D C .	%Sot		81	85		99	72	29	8
	Dissolved	mdd		8 2 8	4.8		5.6	5.6	5.2	2.2
				. 58	62	59	92	84	†8	0.
	Oischargs Temp in cfs in oF			364	659	665 est.	781	40 <i>L</i>	989	651
	and time	P.S.T.	1962	1-3	3-6 1350	3-13 1040	5-10	7-3	9-4	1750

b Loboratory pH.

c Sum of colcium and magnesium in epm

c. Sum of coletum and magnessium in Epm. d. Iron (Rb), manganese (Mn), zinc (Zn), and hexavalent chromium (Gr*6), reparted here as $\frac{0.0}{0.0}$ except as shawn d. Iron (Fe), aluminum (Al), arsaic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Gr*6), reparted here as $\frac{0.0}{0.00}$ except as shawn

Determined by addition of analyzed constituents Derived from conductivity vs TDS curves

Gravimetric determination.

32505-0-4 6-61 200 STO h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Geologicul Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR), United States Geologicul Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR), United States Survey, Quality of Long Beach, Department of Water and Power (LADMP), City of Los Angeles, Department of Public Health (LADPH), City of Long Beach, Department of Public Health (LADPH), Terminal Testing Loberatories, Inc. (TIL), or California Department of Water Resources (DWR), as indicated.

ANALYSES OF SURFACE WATER

COLORADO RIVER BASIS MAGIOS (100. 7) SALFON SEA AT SALFON SEA STATE PARK (STA. 68a)

		Anolyzad by i		DWR	USACL	DWR				
		Hordness bid-Coliformh os CoCO ₃ 117, MPN/ml Totol N C ppm pgm		0.45		0.46	0.45	0.0	2.2	13.5.2
		bid - C		V 25			7 25	V 25	V 25	× × × × × × × × × × × × × × × × × × ×
Г		dness CoCO _S N C		6040 5885 < 25	7073	5670 5608	5736	6159	5814	6250 50914
L					7225		5870	6300	5972	6250
-	10	ed sod -		78	64 75	78	92 28	77	30 79	
L	Tota	salvad solids in ppm			37664		34400		35080	
		Other constituents					$Po_{1_1} = 0.00$ $As = 0.00$		Po ₁ = 0.04	
		(50:S) (ജI	01 S	<u> </u>	_ଲ	임	30 2.4	21
High	per million	de Boran (B)		7.80	2.0 5.50	7.40	3.4 7.90	7.70	3.1 7.80	01.5
ports per millian	1 1	Ni- Fluo- trate ride (NO ₃) (F)								
ports	equivalents			85	75 0.00	20	30 4.3	ଞ୍ଚ	54 0.08	S Iv
	e	Chlo-	<u></u>	14250	14240	363.50	30 394.80	14400	14700	14500 1400-9
	510	Sul - fate (SO ₄)			9270		7620		7400	
	00571708	Brcar- bonate (HCO ₃)		3.10	3.04	3.24	166	172	3.16	3.12
	Minaral constituents	Carban- ofe (CO ₃)		0000	0,00	000	0000	0	000	000
1	S	Sium (K)			162		160		160	
		Sodium (No)		9900	10100	9400	9720	9900	10500	9725 423.0
		Magne- sum (Mg)			1064		79.27		933	
		Calcium Magne- (Ca) sium (Mg)			1157		38.17		825	
		ĭ.		0.38	7.98	82.	8.18		7.98	0.1
	Specific	conductance (micromhos at 25°C)		41190	3000	40210	40450	41050	1,0486	44330
		0		134		121	104	66	F	120.5
		Disso axy ppm		13.6 134		12.0	8.0	7.2	5.6	0.01
		Temp o ci		9	54	62	87†	8	8	78
		Orschorge Temp		Seg	Sea	Sea	Sea	Sea	Sea	ଷ ଖୁ
		ond time sompled PST	1962	1-3	2-19	3-6	5-10	7-3	9-7 1600	1505

Laboratory pH.

Sum of calcium and magnesium in epm.

From (Cr. 5), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr. 5), reported here as 0.0 except as shown.

Derived fram conductivity vs TDS curves

Determined by addition of analyzed constituents

Gravimetric determination.

Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

32505-0-H 6-61 200 SPO Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Sureau of Reclamation (USBR), United States Public Health (LADPH); City of Los Angeles Department of Water and Power (LADPH); City of Los Angeles Department of Water and Power (LADPH); City of Lapper (LADPH); City of Lapper (LADPH); City of Lapper (LADPH); City of Lapper (USMCI) as Indicated Post-Lit Ander Control Lapper (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper and Department of Water Resources (DWR); The Arrical Lapper Branch Resources (DWR); The Arrical Lapper Arrical Lapper Arrical Lapper Arrical Lapper Arrical Lapper Arrival Lapper A

TABLE 8-15

ANALYSES OF SURFACE WATER

COLORADO RIVER LASIN DE DELL (NO. 7) WHITE WATER RIVER NEAR PECCA (STA. 68b)

	Analyzed by i		DWR	MALE					
£	Hordness bid - Culform os CoCO ₅ 11y MPN/mi Tatol N C ppm ppm		620		620	500	2406	620	3300
1	- pid - 0		200	Pre	350	004	300	700	7200
	CO.S.		349	392	1,18	342	331	427	351
	Tatol PPm		639	999	625	620	599	683	621
Par	sod -		70	69	D I	8	67	67	8
Tatol	solids in pom			2708		2458		2280	
	Other constituents				•	Po _b = 0.6 As = 0.00		Po _{li} = 0.16	
	Silica (S:02)			17		56		75	
HION	Boron (B)		1.22	1.20	0.99	1.02	1.08	0.98	1.10
per million	Flua- ride (F)			3.2		3.6		3.1	
equivolents per mil	frate (NO ₃)			23		30		26	
o ninba	Chia- ride (CI)		540 15.23	506	530	462	415	430	14.10
č	Sul - fate (SO ₄)			684		930		872 18.16	
constituents	Bicar- banate (HCO ₃)		322	332	253	339	327	312	7.10
ral con	Corban- (CO ₃)		16 0.52	00.00	0,00	00.00	000	000	8.00
Mineral	Patos- C sium (K)			0,29		13		13	
	Sodium (No)		672 29.23	700	663 23,84	612 1	553	23.92	2012 20 • 52 20 • 52
	Mogne-		<u> </u>	2.40	010	3.47		43	
	Calcium (Ca)			219		179 8.93		163	
	ī		7.6ª	8.10	7.68	7.9ª	7.3ª	7.9ª	
Specific	(micromhas at 25°C)		4504	4150	3970	3611	3483	3275	3821
-	1 5		001		86	103	122	86	2.
	Dissolved oxygen ppm %Si		9.6		4.6	8.3	9.5	7.2	4.
	Ten in of		779	61	79	82	8	06	9
	Discharge Temp		75 est		75 est	90 est.	90 est.	90 est.	80 est.
	ond time sampled P.S.T	1962	1-3	2-19 1230	3-6	5-10 1420	7-3	9-4	1535

o Field pH.

32505-D-8 6-61 200 3PO Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Surreau of Reclamation (USBR); United States Geological Survey, Quality of Mater Branch Survey, Cary of Los Angeles, Department of Water and Power (LADPH); City of Long Beach, Department of Power (LADPH); City of Long Beach, Department of Power (LADPH); City of Long Beach, Department of Water Resources (DWR); Item Constituted Constituted and Laboratories, Inc. (TIL); or Colifornia Department of Water Resources (DWR); Item Constituted Constituted and Laboratories, Inc. (TIL); or Colifornia Department of Water Resources (DWR); Item Constituted Constituted Constituted States and Laboratories, Inc. (TIL); or Colifornia Department of Water Resources (DWR); Item Constituted C

b Laboratory pH.

c. Sum of calcium and magnesium in epm.

c. Sum of calcium and magnessium in spm. d. Irran (Fe), oluminum (AI), arsenic (As), copper (Cu), lead (Pb), mangonese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁶), reported here as $\frac{0.0}{0.00}$ except as shawn.

Derived from conductivity vs TDS curves.

g Gravimetric determination.

Determined by addition of analyzed constituents

h Annual median and range, respectively. Calculated from analyses of duplicate manthly samples made by California Department af Public Health, Division of Laboratories, or United States Public Health Service.

TABLE 8-16

ANALYSES OF SURFACE WATER COLORADO RIVER. BASID'S REGIOS (30. 7) WHITE WATER RIVER SEAR WRITE WATER (SEA. 68)

	pazi				13					
	Anolyzed by i			DWR	USACL	DWR				
	Hardness bid - Coliformh as CaCO ₃ 11y MPN/mi			2.0		6.2	Samples Lost	5.0	6,0	. d. d.
1	- pid - th m ppm			\ 255		\$25	\	\ 25	\	S 25
	aco ₃	N G		13	18	ω	7	8	13	d
	Has	Tatol		193	192	165	190	192	189	191
9	sod -			16	13	16	17	15	15	[†] ਜ
Total	solids	E 00 E			262	218	243		255	
	Other constituents	- 1					$PO_{1_{1}} = 0.00$ $AB = 0.00$		PO ₁ = 0.00	
	Silico	2000			125	8	81		139	
Iron	Boron			8	0.05	0.00	0.01	0.00	0.02	8
volents per million	Flua-				0.9	0.0	0.98		0.96	
aquivolants	Ni – trote				77.0	1.3	1.2		1.5	
aquive	Chlo-	(C)		6	17	17.0 0.11	5 0.14	3	11.0	00.14
ui s	Sul - fate				22 0.46	41 0.85	145 0.93		14.3 0.89	
constituents	Brcar - bonote	(HCO3)	_	3.60	3.47	3.24	3.52	3.44	3.52	3.40
Mineral co.	Corban-	(603)		0.00	0.00	0.00	00.00	0000	00.00	00.00
Mir	Potos-	3			4.6	4.7 0.12	1,8		0.12	
	Sodium (Na)			17	14 0.60	15	18	02.70	16	7.07 0.01
	Magne	(Mg)			1.17	17	11 0.91		13	
	Calcium Magne-				7.68 53	37	7.38 58		5 ⁴ 2.69	
	Ĭ.			7.9ª	7.68	7.88	7.3B	7.58	7.88	82.2
Specific	conductance (micromhos			428	418	4174	1641	1,28	418	430
	1	%Sot		17		72	87	8	%	5+46
	0 % F	Edd		6.8		7.0	8.0	8	4.8	†* ° 6
	Temp in oF			179	641	63	88	70	72	0.
	Osschorge Temp			6 est.	6 est.	6 est.	6 est.	6 est	6 est.	#2 #2 #3
,	ond time	P.S.T.	1962	1-4	2-19	3-6	5-10	7-3	9-4 1230	1505

to Laboratory pH.

Sum of calcium and magnesium in epm.

Join by Landson and All, reported (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺³), reported here as 0.0 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health (LADPH); City of Los Angeles Department of Water and Power (LADMP); City of Los Angeles Department of Water and Power (LADMP); City of Los Angeles Department of Water and Power (LADMP); City of Los Angeles (USACL) as Indicated assessment of States Agricultural Consultants and Laboratories, Inc. (TIL); or California Department of Water Resources (DWR): Citted Agricultural Consultants and Laboratories, Inc. (TIL); or California Department of Water Resources (DWR): Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Californio Department of Public Health, Division of Laboratories, or United Stotes Public Health Service.

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32505-13-6 6-61 200

ANALYSES OF SURFACE WATER TABLE 6-17

CHINO CREW WEAR CHINO (STA. 86)

	Anolyzed by i	T		Two.												
	Hordness bid - Coliform os CoCOs ity MPN/mi			620	7000	2400	2300	620	230							
1	- piq -			\ 25	25	75		09	V 25							
	0000 S	maa		0	~	0	0	0	0							
	Hord Os C	ppm		318	599	330	332	225	251							
9	cent Lod			39	36	36	35	7 7 5	742							
Totol	solved solids madd ni				576	632		511								
	Other constituents				PO _{l,} = 8 ppm ABs detergents 0.32	PO _h = 6.3 ppm ABs detergents 1.1		$A_8 = 0.00$ $PO_{l_1} = 21$ $MH_{l_2} = 3.2$	$PO_{1_{1}} = \frac{10}{0.76}$							
	Boron Silico	_ -			7	139		35								
Hon				0,21	0.19	0.22	0.21	0.22	0.22							
per m	F tuo-				0.01	0.0		1.04								
ports per million equivolents per mil-	N I I	(803)			1,50	1.6		24 0.38								
equiv	Chio-	3		60 1.69	1.35	55 1.55	51	1.55	63							
Ē	Sul - fote	(304)			83	90		30								_
Mineral constituents	Bicor	(HCO3)		1,66	323	417 6.84	7.00	366	373							
nerol cor	Corbon-	(\$0.0)		00.00	16 0.56	00.00	000	000	0.00							
N.	Potos-	K)			15 0.38	15 0.38		0.38								
	Sodium (Na)			93	3.39	3.65	3.65	3.61	3.61							
	Mogne-	(6 M)			22 1.84	2.01		0.90								
	Calcium (Ca)				83	92		3.59								
	H			8,4,8	7.48	7.5	7.48	7.6ª	7.5ª							
3,000	conductonce pH (micromhos of 25°C)			1007	881	166	936	827	859							
	D	%201		100	7.5	58	104	11	57							
	01680	mdd		12.0	7.6	4.9	10.4	4.9	5.6							
	Te an			9	775	99	9	78	62							
	Dischorge Temp			1/4 est. 46	5 est.	5 est.	l est.	l est.	1 est	Dry No flow	Dry No flow	Dry No flow	Dry 110 flow	Dry No flow	Dry No flow	
	Dote compled	2	1962	1-2	2-14 0915	3-9	4-2 0910	5-7	6-4 0815	7-5	8-1 0730	9-10	10-4	111-7	12-3	

a Field pH

b Laboratory pH

c Sum of colcium and magnesium in epm

c. Sum of colcium and magnesium in spm.

d. Iron (Fe), aluminum (A1), arsenic (As), copper (Cu), Icad (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as 0.00 except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents

Grovimetric determination.

Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

2255-0-4 6-61 200 SEC i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Ceological Survey, Quality of Water Branch (USPHS), Son Benardine County Flood Control District (SBCFCD); Metropolitan Water District (SBCFCD), Metropolitan Water District (SBCFCD); Metropolitan Water District (SBCFCD); Metropolitan Water District (SBCFCD); Metropolitan Water Resources (DWR); as indicated.

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ANALYSES OF SURFACE WATER

LAKE ALSILLE NE'R HISINGER (NCHTHITCHE) (STA. 89) SANTA ANA REGION (NO. 8)

	P															
	Analyzed by i				DWR											
	bid - Caliform				<0.045											
	2 - bid 2 - yi				9										-	
	CO3	o E G			0								 			
	Hordness os CoCO ₃	Total N C ppm ppm			136											
	sod -				66											
Totol	solids	E dd ui			21676											
	Other constituents	1														
	Silico	(201C)			ы											
lion	Boron Silico	(0)			7.2											
per million	Fluo-	(F)			2.9											
parts per million equivalents per mill		(NO ₅)												_		
od nine	Chlo-	(ij)	-		8100 20 228.40 0.33					_			 			
č	Sul -				4950 103.10				~							····
constituents	Bicar -				625 10.24								 			
ol cons	Carbon-B	(600			139 6											
Mineral	Potas- Cc	Ž.											 			
	Sodium Pc	5			107							<u></u>	 			
	-BIG				7850								 			
	Mode	(M)			129											
	Colcium Magna-	9			23 1.15											
	I				© 4, °											
Soacific	(micramhos of 25°C)				28660											
	p u	%Sat			109							,				
	Dissolved oxygen	ppm %Sat			10.4											
	Tamp in oF				75								 			
	Dischorge Tamp			Dry lake		Dry lake	Dry lake	Dry lake	Dry lake							
	Onta and time sompled	P.S.T	1962	1-2 1100	3-16	5-8 0850	7-2 bi	9-6 1515	11-8 1515		- 10					

b Loborotory pM.

c Sum of calcium and magnesium in epm.

Iron (S.) aluminus (Al), orsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Gr*5), reported here as $\frac{0.0}{0.00}$ except as shown

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

g Grovimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United Stotes Public Health Service.

32505-D-8 6-61 200 i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior. Bureau of Reclamation (USBR); United States Department of Water and Power (LADWP); City of Los Angeles, Department of Water District (SBCFCD); Metropolitan Water District. of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Labert (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR), as indicated.

TABLE P-17

ANALYSES OF SURFACE WATER SANTA ANA REGION (NO. 8)
SANTA ANA RECEINGTON (STA. 51)

		Analyzed by i		DWR	DWR	TIL	DVR									
	4	bid - Coliform' ify MPN/ml		230	620		240	623	23	13	62	240	230	23	12 23	62.9
r	Tor-	- bid - ti- ppg		25	8	3300	V 25	V 25	V 25	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\ 25	V 25	V 255		\ 25	\ \ \ \
		a CO		105	109	37	119	116	115	110	Ħ	115	115	123	100	118
_				383	370	506	382	396	337	354	358	339	379	384	371	373
L	Par	sad -		e	32	표	8		31	33	31	32	99	29	72	59
	Total	solios solids in ppm		651	624	0170	657	069	602	672	909	9	620		672	627
		Other constituents		$PO_{l_1} = \frac{0.25}{ABs}$ detergents 0.16		$PO_{l_l} = 1.0$ ABs = 0.05	PO _h = 0.1 ppm ABs detengents 0.1	PO _h = 0.54 ABS detergents	$PO_{l_{1}} = \frac{0.5}{0.04}$ $ABS = \frac{0.04}{0.00}$ $AS = \frac{0.00}{0.00}$	$PO_{h} = 0.7$ $ABS = 0.0$	$PO_{14} = 0.09$ ABs = 0.06	$PO_{4} = 0.05$ $AB_{3}^{4} = 0.14$	$PO_{l_{\mu}} = 0.00$ ABs = 0.	$PO_{1_1} = 0.02$ ABS = 0.03	$PO_{l_t} = \frac{0.02}{0.09}$ ABs = $\frac{0.02}{0.09}$	$NB_{l_{1}} = 0$ ABs = 0.04
		Silic d (SiO ₂)		27	19	6]	189	27	25	88	25	27	88			27
 -	million	Boron (B)		0.15	0.21	0.14	0.12	0.14	0.14	0.11	2,15	0.14	0.15	0.13	0.10	0.10
DITI'E	per	Fluo- ride (F)		0.76	0.00	0.60	0.60	0.74	0.64	0.74	0.62	0.80	0.58		0.0	0.0
ports per million	equivalents	trate (NO ₃)		35	0.23	30	28	23	22 0•35	27	30	21	22		27	21
٩	AIND9	Chlo- ride (CI)		2.79	5 ⁴	2.79	2.93	103	100 2.82	98	98	101 2.85	101 2.85	98	2.76	2.65 2.65
	<u>-</u>	Sul - fote (SO ₄)		2.29	70	106	2.47	139 2,89	2.40	2.31	2.31	2.30	2.36		2.32	2.35
	constituents	Bicor- bonate (MCO ₃)		339	205	318	321	342	271	298	301	273 4.48	322	318	320	311
	Mineral con	Corbon— ote (CO ₃)		00.00	0000	0000	000	0.00	000	000	8	00.00	00.00	00.00	00.00	0000
	ž	Potas- Sium (K)		5.2	0.18	5.1 0.13	0.12	5.0	1 7 7	0.12	1.6	4.6	0.12		4.9 0.13	70 8.05
		Sodium (No)	-	3.39	148 2.10	3.13	3.31	85 3.70	3.09	3.44	3.22	3.31	3.31	3.18	95	3.05
		Magne- Sium (Mg)		24 1.97	14	25	29	1.97	22 1.81	25	23	2.14	22		23	25.07
		Calcium (Ca)		117	3.36	5.34	105 5.24	119 5.94	46.4	101	5.24	94 1.89	5.79		5.54	108 5-39
		ī		g .	-3°	7.5ª	7.5ª	7.78	7.9ª	7.88	7.84	7.6ª	7.9ª	7.9ª	7.7ª	7°78
	Spacific	(micromhas at 25°C)		1052	959	1000	1040	1045	852	1006	1039	1032	1019	1024	1104	1030
		15		98	1	6)	100	88	92	77	95	106	100	85	90.0	76
		Disso		9.6	1	7.6	9.6	4.8	7.00	8	7.8	9.6	9.5	8.0	9°F	8.8
		Ten in of		25.	82	719	†19	75	80	88	72	70	89	99	99	%
		Oischarge Temp in cfs in aF		7	157	19	77	23	92	7	27	23	56	18.5	53	54
		ond time sompled P.S.T.	1962	1+10	2-10	2-14	3-9	1120	5-2 1015	6-4	7-5	8-1	9-12 0930	10-4	11-7	12-3 1115

-3" -

o Freld pH

c Sum of calcium and magnesium in epm. b Labaratory pH.

c. Sum of calctum and magnestum in epm.

d. Iron (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reported here as 0.0 except as shown d. Iron (Fe), aluminum (Al), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*⁵), reported here as 0.00 except as shown

e Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents

g Gravimetric determination.

h Annual median and range, respectively. Coloulated from analyses of duplicate monthly samples made by Colifornia Department of Public Health, Division of Labaratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Sureau of Reclamation (USBR); United States Public Health Service (USPHS), San Benardino Caunty Flood Cantral District (SBCFCD); Metropolitan Water District of Sauthern California Changeles Department of Water and Power (LADMP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Beach, Department of Water Resources (DMR); as indicated.

OR 002 19-9 R-C+50328

ANALYSES OF SURFACE WATER

SANTA ANA REGION (NO. 8) SANTA ANA RIVER NEAR MANTONE (STA. 51b)

		Anolyzed by i		DWR											
		bid - Collorm s ity MPN/mi		w w	6.2	<0.45, 2.3	9.0	6.2	6,0	23	23	2.3	8.50	1.3	9.0
-	Tur-	pid - C		\ 25	\ 25	\ 25	V 255	\ 255	\ 25	\ 255	\ 25	\ \ \ \ \ \	\ 25	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	V 52
		SO Za		0	0	0	0	0	0	0	0	0	0	0	0
				101	83	87	75	69	82	85	85	93	26	46	8
	Q.	Sod -		% %	<u>۾</u>	27	- 29	8	- - - -	82	53	25	25	%	56
L	Total	solved solids in ppm			147			125				156			
		Other canstituents						$PO_{1_1} = 0.6$ As = 0.00				PO ₄ = 0.16			
		Sidica (\$0:8)			ฤ			양				16			
_	llion	Boron (B)		0.07	0.05	0.04	0.04	90.00	8	0.05	0.05	0.05	90.00	0.05	0.05
million	per million	Fluo- ride (F)			0.02			0.34				0.5			
ports per million	1	hrate (NO ₃)			3.2			0.01				0.0			
Dd .	equivalents	Chia- ride (CI)		6	6	14 0.11	0.20	50.14	17:0	30.00	6	17:0	5 0.14	6	11.00
4	<u>.</u>	Sul - fate (SO ₄)			18			6.7				17			
	Constituents	Bicar – bonate (HCO ₃)		2.36	100	1.80	107	102	1.82	1,36	107	121	1.94	2.00	2004
	Mineral con	Carbon- ote (CO ₃)		0000	000	000	000	000	000	0.00	4.8	0.0	0.0	000	800
	MILL	Paras- Sium (K)			2.5			1.6				1.7			
		Sodium (No)		20	26	15	14 0.61	14	15	15 0.65	16	15	1400.61	15	0.65
		Mogne. Sium (Mg)			5.6			3.7				7.4			
		Calcium (Ca)			2 ⁴			22				25			
		Ĭ.		7.88	80.8	2.6	7.98	7.7	7.98	7.8	7.8	7.9	7.98	7.98	0
	Specific	conductance (micramhas of 25°C)		290	229	247	201	197	22¢	240	250	243	243	198	253
		Oxygen oxygen ppm %Sot		10.8	9.2 84	10.8 93	10.0 88	10.0 95	10.0 95	9.6 100	9.6 3	9.5 92	9.6	9.2 85.4	10.8 85
		Ten o c		87	52	87	50	56	26	479	49	09	26	54	0,2
		Dischorge in cfs		16	001	45 est.	80	80	14	41 est.	27	56	27	56	26 est.
		ond time sompled P S.T	1952	1-4 1020	2-14 1245	3-9	1300	5-7	6-4	7-5		9-12	10-4 1020	1345	1235

o Field pH

b Loboratory pH.

Sum of calcium and magnesium in epm.

Sum or costation and uniquesion in Epin.

Iron (Fe, subminum (Al), present (As), copper (Cu), lead (Pb), manganese (IIIn), zinc (Zn), and hexavalent chromium (Cr*⁶), reported here as 0.0 except as shown in the copy of th

Determined by addition of analyzed constituents Derived from conductivity vs TDS curves

Gravimetric determination.

Annual median and range, respectively. Colculated from analyses of duplicate monthly samples made by Colifornia Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Duality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR), United States Department of States Department of Mater and Power (LADWP); City of Los Angeles, Department of Water and Power (LADWP); City of Los Angeles, Department of States Department of Water and Power (LADWP); City of Los Angeles, Department of Water Resources (DWR); as indicated.

TABLE HELD

ANALYSES OF SURFACE WATER SAYTA ANA REGION (NO. 8) SAYTA ANA RIVER NEAR NORCO (STA. 510)

	P														
	Anolyzed by i			DWR											
	Colitorm MPN/mi			2300	70000	2300	620	230	230	620	620 2400	130	230	620	230
	p ~ 6			25	30	20	50	\ 25	\ 25	\ 25	8	\ 25	V 255	V25	V 252
	Hardness as CaCO ₃	S E		85	8	a	108	105	93	77	8	74	76	97	76
		Total		351	331	354	354	359	337	361	320	318	350	351	356
	cent and			3	43	3	3	37	8	3	147	141	3	111	3
Tatol	dis- baylos solids	mdd ui			199	731	730	202				029		422	
	1				Poh = 10 ppm; ABS Detergents 0.51ppm	PO _h = $\frac{9.0}{1.14}$ PDm; ABS Detergents $\frac{1.14}{1}$ Ppm	PO $_{l_1} = 8.0$ ppm; ABS Detergents 1.2 l_1 ppm	PO1 = 15 A8=0.00;ABS=0.92				PO _h = 7.5 ABS=1.56;As=0.00	PO _L = 3.0 ABS = 1.0	$PO_{L} = \frac{9.0}{1.05}$	PO ₁ = 6.8 AB\$ = 0.05
	Silica	(2 _O (S)			25	%!	췺	81				웨		취	
lion	Boron	<u>(8)</u>		0.43	0.33	14.0	0.54	0,48	0,40	0.32	11.0	0.52	0.50	0.39	1 €.0
million per million	Fluo-	(F)			0.05	0.05	0.96	0.88				0.086		0.00	
121	ž	(NO ₃)			0,04	140 0.15	38	26				0.36		0.33	
ports pr aquivolents	Chlo-	(C)		130	3.21	131 3.69	3.55	3.47	3.27	145	3.30	3.36	131	3.61	3.58
ē	Sul -	(\$0\$)			2.37	125	143 2.98	2:12				2.36		2.46	
tituents	Bicar -	(HCO ₃)		325	236 1.86	1,38 1,38	300	310	88. 1.88	301	1.80 1.80	238 1-88	312	310	316 5.18
Minerol constituents	arbon-	(CO ₃)		000	0.0	0.00	0.0	00.0	0.0	000	00	0.0	0.0	0.0	8
Mine		E(X)			7.2 0.18	8.3 0.0	0.19	7.0				9.0		9.1	
		(0 N)	_	100	97	100	110	100	100	11.2	102	105	106	105	109
	-aubon	(Mg)			25 2.08	25.04	200	1.64				24 1.97		27.2	
	Olcium	(°S)			91	101	100	5.54				88		27 1.84	
	ī			7.3ª	7.4ª	7.38	7.4a	7.4ª	7.3	7.4ª	7.48	7.3ª	7.3ª	7.3	7.38
	conductance (micramhos	01 25 C)		1203	1067	1777	1120	1134	1083	1221	1104	1083	13.54	3611	117 ⁴
		%Sat		19	59	55	20	22	84	57	7	57	84	50	53
	Dissolved	mdd o		4.9	0.9	5.6	5.0	4.4	7.7	8.4	6.4	5.5	4.4	8.4	9.
	Temp In OF			26	9	09	9	47	89	92	22	899	89	49	26
	Dischorge Temp			50 est.	100 est.	100 est.	45 est.	30 est.	30 est.	20 eot.	20 est.	30 est.	25 eot.	30 est.	25 est.
	Oote ond time	P.S.T.	1962	1-10	2-14 1030	3-9	4-2 1050	5-7	1000	7-5	8-1	9-12	10-4	1030	1050

b Laboratary pH.

c. Sum of calcium and magnesium in epm.

Sum of calcium and magnesium in epin.

Iron (Fa), oluminum (A1), aisenic (As), coppor (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Ci *5), reported here as 0 0 except as shown iron (Fa).

Derived from conductivity vs TDS curves

Datemined by addition of analyzed constituents

Gravimetric determination

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Destruct of Southern California (WMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of LaDPH); Tammol Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Loboratories, or United States Public Health Service.

32505-0-4 6-61 200 SPN

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32505-D-8 6-61 200 SPO

ANALYSES OF SURFACE WATER TABLE 3-17

		, 51a)
	8)	(STA.
	Ž	DAM
	A SF TON (NO	BELOW PRADO DAN
	A AIM	
	SANTA	RIVER
Ì		ANA
		SANTA

	Analyzed by i		DWR	DWR	TIL	DWR									
	Coliform MPN/ml		70000	13000		2300	6200	70000	2300	600	230	230	230	620	44.562
	pid - O	-	09	300	485	70	800	\	\	30	42	< 25	\ 252	\	\ 25
	Hardness as CaCO ₃ Total N C		84	87	200	107	93	011	76	88	8	96	105	46	100
			357	355	170	377	371	374	361	367	356	363	367	353	359
d	Sod -		37	99	36	37	36	32	35	33	34	35	34	36	36
Total	dis- solved solids in ppm		699	229	435	716	700	681	698	648	655	655		969	L119
	Other constituents		Po _l = 0.25 ABs detergents 0.56	ABs detergents 0.48	$PO_{l_s} = \frac{h \cdot 0}{4.0}$ ABs detergents 0.28	$PO_{l_t} = 5.4$ ABs detergents 0.42	$PO_{l_1} = \frac{h.0}{h.0}$ ABs detergents 0.44	$PO_{1} = \frac{3.0}{0.3}$ ABS = $\frac{0.3}{0.00}$ As = $\frac{0.00}{0.00}$	$PO_{1_{1}} = \frac{1_{1} \cdot 0}{A \cdot B}$	$PO_{1_2} = \frac{3.6}{0.2^4}$ ABS = $\frac{0.24}{0.2}$	$PO_{1_1} = \frac{1.5}{0.3^{1_2}}$ ABS = $\frac{0.3^{1_2}}{0.3^{1_2}}$	$PO_{14} = 2.00$ ABS = 0.36 AS = 0.00	PO ₄ = 1.30 AB\$ = 0.30	$PO_{l_1} = \frac{3.6}{0.32}$	$NH_{1_b} = 0$ $PO_{1_b} = \frac{3.6}{0.35}$ ABS = 0.35
	Sinca (S:0 2)		27	17	25	8	56	27	63	27	88	81		56	55
ign	Boron (B)		0.31	0.08	0.27	0.25	0,40	0.28	0.28	0.30	0,31	0.32	0.29	0.27	0,31
E	1 5 6		0.78	0.35	0.70	0.90	0.0	0.70	0.78	0.61	0.80	0.03		0.0	0.0
parts per			25	2 0.04	12 0.20	25	12 0.20	0.23	27 0.43	0.30	12 0.19	12 0.19		20	24 0•39
d Ainba	Chlo- ride (Ci)		3.38	36	3.55	3.53	3.36	3.41	3.19	3.24	3.27	3.30	120 3.38	3.27	3.27
ē	Sul - fote (504)		2.44	78	120	128	2.93	2.45	2.31	2.30	2.19	2.31		108	2.31
constituents	Bicar – bonote (HCO ₃)		333	170 2•79	302	329	339	322	322	328	276	327	320	316	316
Mineral cor	Carbon- ote (CO ₃)		000	0000	12	00	00	0000	0000	000	2 ^½ 0.80	00.00	000	000	00.0
Ž	Potas- sium (K)		6.3	19	10 0.26	8.8	6.7	5.1 0.13	5.5	5.7	5.4	5.0		6.4	6.1 0.16
	Sodium (No)		97	50 2.19	97	102	100	3.78	3.92	3.70	88 3.83	3.92	3.78	92 1,00	91 3.96
	Magne. sum (Mg)		25 2.05	0.85	2.01	2.35	2500	29	24 1.98	23 1.90	25.06	2 ^t		25 25	24
	Calcium (Co)		102	51 2.54	102	104	5.34	5.54	105 5.24	109	5.09	106 5.29		101 5.04	10t 5.19
	H		7.48	7.1 ^b	7.38	7.38	7.1ª	7.68	7.58	7.68	7.78	7.8	7.78	7.68	7.58
9	conductance (micromhos at 25°C)		1105	615	1084	1321	1089	1122	1080	1001	1092	1064	1063	1087	1099
			94	4° k	63	61	56	87	75	93	88	85	85	83.5	87
	Dissolved oxygen ppm %Sc		5.2	l I	4.9	49	5.6	7.6	7.2	8.4	8.4	0.8	8.0	3,4	9.5
	Tamp In OF		54	56	9	96	09	7/4	79	70	199	99	99	09	99
	Orscharge Temp		51	57.1	131	20	99	8	35	25	20	17	42	38	7,0
	and time sompled	1962	1-2 0940	2-9	2-1 ⁴ 0945	3-9	7-5	5-7	0060 17-9	7-5	8-1 0800	9-1t 0830	10-4 0720	11-7	12-3 0945

b Laboratory pH.

c. Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (AI), reparted here as $\frac{0.0}{0.00}$ except as shawn decreased here as $\frac{0.0}{0.00}$ except as shawn a row (Fe), aluminum (AI), reparted here as $\frac{0.0}{0.00}$ except as shawn

Derived fram conductivity vs TDS curves

Determined by addition of analyzed canstituents

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service (USPHS), Son Bernardino County Flood in Mineral analyses made by United States Geological Survey, Quality of Water Branch (USCS), United States Department of the Interior, Bureau of Reclamorion (USBR); United States Beard, Department of Water and Power (LADMP), City of Los Angeles, Department of Water District of Southern California Beach, Department of Water Resources (DWR); as indicated.

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ANALYSES OF SURFACE WATER SAYEN AND REGION (NO. 8) WARM CREEK NEAR COLFON (STA. 50°)

	Anolyzed by 1																
					DWR										<u>ر</u>		
	de CoCO ₃ ily MPN/mi				130			4.5		62.			700		62 <0.45		
1	- pad -				₹2 >			\ 255	_	\ 25			\		\ 25		
	3000 S	D W d			57			98		8			57		64		
		Edd			190			216		190			234		272		
	E				61			55		51			15		57		
Total	solids in pom				581			643		528			740		709		
	Other constituents				NH ₄ =12; PO ₄ =34 ABs detergents 6.2			NH ₁ =1.0; PO ₁ =32 ABs detergent 4.0		NH4=13.8; PO4=33 ABs detergent 5.4			$MH_{h}=7.6$; $PO_{h}=31$ ABs detergent 5.4		PO ₁ =30; ABs=5.1 As=0.00		
	Silico (SiO ₂)				띪			젊		約			잃		81		
Hion	Boron (B)				0.37			0.62		0.38			0.51		0.60		
million per million	Fluo-	=			1.0			0.00		0.8			3.2		0.00		
parts per million equivolents per mil		(NO ₃)			85			11.5		1.20			73		61 0.98		
Q VIDE	Chio-	(Ĉ			3.13			3.98		2.65			158		153		
<u>=</u>	Sul - fote	(80%)			52 1.08			2.35		6.99			85 1.77		84 1.76		
constituents	Bicor - bonote	(HCO ₃)			3.32			159 2.60		3.40			220 3.60		3.26		
Mineral con	Carbon-	(CO3)			000			000		000			00.00		00.00		
Min	Potos-	- 1			15 0.38			0.38		14 0.36			1.5 0.38		14		
	Sodium (No)				106			122		3.96			130		139		
	Mogne-	(Mg)			20		-	22 1.82		1.50			14 1.15		20		
	Colcium				43			2.50		2.30			71 3.54		2.59		
	Ĭ			7.48	7.5ª	7.6ª		7.0b	7.3ª	7.10	7.3ª	7.4ª	7.6ª	7.5ª	7.5ª	7.38	7.48
	conductance (micrambos				916			101		906			7111		27/1		
		%Sat		92	8	82	87	87	46	76	96	92	8	2 8	96		83
	Dissolved	mdd		9.3	9.	8.0	8.0	8.0	0.6	0.6	0.6	8.0	7.6	7.0	8.2		0.8
	Ten in of			9.	†9	62	67	29	79	179	69	72	94	472	47	8	70
	Oischarge Temp						15 est.	15 est									
	Oote ond time sompled	P.S.T.	1962	1-2 0830	1-2	1-2 1530	2-15	2-15	3-5	3-5	3-5	4-12 0830	4-12 1230	4-12 1530	5-2 0800	5-2 1430	6-7 0745

b Labaratory pH

c Sum of colcium and magnesium in epm.

c. Sum of colcium and magnesium in epm.

d. Iron (Fe), aluminum (AI), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*6), reparted here as \$\frac{0.0}{0.00}\$ except as shown

e Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents

g Gravimetric determination.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Related Service (USPHS); Son Benordine Country Flood Country District (SBCFCD); Metropoliton Water District of Southern California (WMD); Las Angeles Department of Water and Power (LADMP); City of Las Angeles, Department of Public Health (LADPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated. h Annual median and range, respectively. Calculated fram analyses of duplicate manthly samples made by California Department of Public Health, Division of Lobaratories, or United States Public Health Service.

92505-D-H 6-61 200 SPO

ANALYSES OF SURFACE WATER TABLE 8-17

SANTA ANA REGION (NO. 8) WARM CREEK NEAR COLTON (STA. 50b) (continued)

	Analyzad by 3	DWR														
	Hordness bid - Caliform as CaCO ₃ 117 MPN/ml Tatol N C nppm	6.2			623			83 83			62.3			2 700 √ 700		
	- piq -	\ 25			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			\ 25			\ 25			\ 25		
	SCO3 N C PPR	38			8			27			747			52		
	Hordness as CaCO ₃ Tatal N C ppm ppm	214			202			187			195			191		
Q.	sad -	52			717		_	55			117			58		
Tatot	solved solved in ppm	902			200			625			1485			622		
	Other constituents	$PO_{l_1} = \frac{35}{5 \cdot l_2}$ ABs = $\frac{5 \cdot l_1}{5 \cdot l_2}$			$PO_{t_1} = \frac{36}{1.8}$			$MH_{h}=4.3; PO_{h}=28$ ABs= $\frac{4.5}{1.5}$			NH ₁ =2.0; As=0.00 PO ₁ =28; ABs=3.6			PO ₄ = 23 APs = .0		
	Silica (SiO ₂)	34			53			133			32			34		
million	Boron (B)	0.59			64.0			8			0.30			0.57		
per mi	Fluo- ride (F)	1.3			0.8			1.16			0.78			1.3		
60	rrote (NO ₃)	82 1.32			1.63			71			83			82 1.33		
9 400	Chlo- ride (CI)	142			2.12	.,		3.33			67			3.33		
ē	Sul - fate (SO ₄)	64 1.34			1.56			1.61			66 6			1.46		
constituents	Bicar - S bonate (HCO ₃) (3.52			137 7			3.20 7			181 2.96 1			170 2.78		
1		0.0			0.00			000								
Mineral	03- Corban- 018) (CO ₃)										000			00		
	Potos-	14			14			13			13			0.33		
	Sodium (aN)	126			3.44			5.13			3.39			5.31		
	Mogne- sum (Mg)	1.49			19			9.2			1.73			20		
	Calcium (Ca)	56			2.50			60.3			7.38 43			44 2.19		
	I	7.3ª	7.48	7.48	80	8.2.	7.58	7.38	7.4B	7.28	7.38	7.38	7.58	7.48	7.58	7.6ª
0.000	conductance (micrombos of 25°C)	1090			819			1027			775			L#6		
	1 5	101	92	68	101	101	100	218	81	87	10h	%	478	118	47	82
	Disso	8.2	8.0	7.8	0.0	8.2	8.6	0.6	4.9	7.6	4.8	7.8	7.0	9.6	6.2	7.7
	Tamp in OF	88	10	72	82	88	77_	48	82	72	80	80	77	81	11	62
	Discharge Tamp						ю	я	Φ	m	2	п	m	7	10	_د .
	ond time sampled P.S.T	6-7	6-7	7-2 0715	7-2	7-2	8-7 0715	8-7 1245	8-7 1915	9-4 0715	9-4	9-4	10-2	10-2	10-2	0720

b Laboratory pH.

c. Sum of calcium and magnesium in epm.

c. Sum of calcum and magnessum in epm. d. Iron (Rb), reanganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁵), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

32505-D-8 6-61 200 9PG i Mineral onalyses made by United States Geological Survey, Duality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernordina County Flood County Flood County Flood District (SBCFCD); Materapalitan Water District of Southern California (WMD). Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR), as indicated. TABLE b-17

ANALYSES OF SURFACE WATER

CANAL ANA REGION (NO. 8)

WARK CHEEK NEAR COIFON (SEA. 50b) (continued)

	Anolyzed by i		DWR									
	Hardness bid- Coliform as CoCOs ify MPN/mi		23			0.6						
	- 25 E		\ 25			\ 25						
	000	D E G	82			92						
	Harda as Co	Totol	212			197						
d	sad -		55			147						
Total	solved sad -	E 00 U	699			503						
	Other canstituents		$PO_{1_1} = \frac{28}{3.1}$			ABs = $\frac{h_{\bullet}7}{970.50}$	7,557					
	Silica	(ZOIC)	35			8						
lion	Boran	í)	0.64			0.34						
per million	Flua-		1.3			0.0						
6	N.~.		3.40									
equivolents	Chlo-	(CI)	3.75			65						
č	Sul -	-	77 1 1 1 1 1 1 1.			62						
stifuents	Bicar - bonate	(HCO ₃)	3.08			3.42						
Mineral constituents in	Carbon-	(co)	00.0	•		00.00						
Min	Potos-	Ξ.	1 ⁴ 0.36			13						
	Sodium		120			3.52						
	Magne.	(gw)	130			1.11						
	Calcium		53			50						
			7.50	7.48	7.48	8,6	7.3ª					
Spacific	(micromhos pH		1050			849						
	9 4	%Sot	06	31	88	95	78					
	DISSO	Edd	7.5	6.9	8.6	8.6	ć− ₩					
	Ten or		78	92	62	99	99					
	Discharge Temp		10	10								
	ond time sompled	PST	11-7	1610	12-10	12-10	12-10					

b Labaratory pH

c. Sum of colcium and magnesium in epm.

c. Sum of colctum and magnessium in Epin.

d. Iron (Fe), aluminum (A1), arsence (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavolent chramium (Cr ⁶), reported here as 0.0 except as shown of 100 except as shown

Derived from canductivity vs TDS curves

Detarmined by addition of analyzed constituents

g Grovimetric determination

h Annual median and ronge, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

32505-D-8 6-61 200 SPC i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior of Reclamation (USBR); United States Bearing (USPR); San Bernardino County Flood Cantrol District (SBCFCD), Metropolitan Water District of Southern California (WMD); Las Angeles Department of Water and Power (LADMP); City of Las Angeles, Department of Public Health (LADPH); City of Lang Baach, Department of Water and Power (LADPH); Terminal Testing Laboratories, Inc. (TTL); at California Department of Water Resources (DWR); as indicated. TABLE 8-17

ANALYSES OF SURFACE WATER SAIRS AND ROGION (NO. ")

WELL LIVE OF HEMOLITHING (JEA. 5.6)

_																
	Hardness bid Coliformh Analyzed os CoCO ₃ IIIy MPN/ml by i				DVR											
	Soli form MPN/mi				99											
	- pid - Lya				8											
	COS	N D P			cu .											
		Tatal			50											
	Sad -				56											
Total	dis- solved	Edd ui			47											
	Other constituents				PO ₁ = 0.6 ABs = 0.08											
	Silica	20.02			9					-						
1	1 5	9			0.04											
million Der million	F Luo-				000		····									
انة ا	1				2.9					-						
parts p	Chio-				5											
ē	Sul -	(\$0°)			2.9											
fituents	Bicar -				94.0											
Mineral constituents in	Carbon	00,00			00.00											
Miner	Potos-	Ŝ.			0.05											
	Sodium	i i			26 0.26											······································
	Magner S	Mg)			3 6											<u></u>
	Caterum	,														
-		=			a 111											
<u></u>	. 2 5 0 E				7.48											
	conductance (m.cromhos				011											
	D 0 4	%Sat			103											
	Dissalved axygen	mdd			10.0											
	Te ap				Ci.											
	Orschorge Temp			Dry No flow	42	Dry No flow	Dry N flow	Dry No flow	Dry No flow	Dry No flow	Dry To flow	Dry No flow	Dry No flow	Dry No flow	Dry No flow	
	and time	P S.T	1962	100C	2-14	3-5	-12 1000	5-2	1000	7-2 1000	3000	1000	10-2 1000	11-7 1000	12-3 Dr 1215 Mc	

b Labaratory pH.

c. Sum of calcium and magnesium in epm.

A Iron (Fe), aluminum (AI), exercise (So.), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr.*6), reported here as $\frac{0.0}{0.00}$ except as shown of (Fe), aluminum (AI), exported here as $\frac{0.0}{0.00}$.

e Denved from canductivity vs TDS curves.

Determined by addition of analyzed constituents

g Gravimetric determination.

h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Bearines (USPHS); Son Bernardino County Flood Cantral analyses made by United States Geological Survey, Quality of Water Branch (USCS); United States Department of the Internal analyses made by United States Geological Survey, Quality of Water Branch (USCS); United States Department of May Flood Cantral analyses made by United States Colorina Water District of Southern California (WMD), Los Angeles Department of Water and Power (LADMP), City of Las Angeles, Department of Public Health (LADPH); City of Las Branch (LADPH), Terminal Testing Lobaratories, Inc. (TTL); or California Department of Water Resources (DWR), as indicated.

32505-D-H 6-61 200 SPO

ANALYSES OF SURFACE WATER SAN DIEGO RETION (No. 9) ESCONDIDO CREEK AT HARMONY GROVE (STA. 63) TABLE 3-18

'		

	Anolyzed by i		DWR					
4	Hordness bid - Coliform" os CoCO ₃ ify MPN/mi Total N C. ppm ppm		230	23	13	700	230	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
To'T	- bid - th mppm		294 <25	\ \ \ \ \	50	\ \ \ 25	198 <25	189 <25
	Hordness os CoCO ₃ Totol N.C. ppm ppm		762	221	164	223	198	189
			386	380	7,02	377	330	T1+
٩	sod -		57	55	26	26	57	25
Totol	solids in ppm			1086	1257		1185	
	Other constituents			PO _h = 16 ABs detergents 1.8	$PO_{1_1}=21_3$ $As=0.00$ $ABs=3.0$; $NH_{1_1}=13$	/B 4.0	$IIH_{1} = \frac{2}{20}$ $PO_{1_1} = \frac{2}{20}$ $ABB = \frac{3 \cdot 5}{3 \cdot 5}$	Pol ₁ = 39.0 AB6 = 3.3
	Silico (SiO ₂)			72	22		13	
ullion	Boron (B)		0.55	0.53	5 0.72	0.61	09.0	
per million	Fluo- ride (F)			0.0	0.86		1.36	
ا ا ت	rrote (NO ₃)			45	9.9		24	
parts p equivolents	Chio- ride (Ci)		305	295 8.32	350	272	362 10.21	9.59
u .	Sul - fote (SO ₄)			226	292 6.03		321	
constituents	Bicor – bonots (HCO ₃)		1.84	3.18	290	3.08	234 3.84	2.71 4.44
Mineral con	Corban- ote (CO ₃)		0000	0.00	00.00	0000	000	0000
Min	Potos- Sium (K)			13	10		19	
	Sodium (No)		232	213	270	225 9.79	268	253 11.00
	Mogne- Sivm (Mg)			3.41	32 2.63		146 3.78	
	Colcium (Ca)		el el	8 84 1.09	109 5.44	ed	3.99	a
	E E		7.0ª	7.2ª	a2.	7.2ª	7.38	7.28
Specific	conductance (micromhos at 25°C)		1852	1726	2110	1840	1947	503
	Dissolved oxygen ppm %Sof		20	99	erf co	108	61	9
			5.2	5.4	7.2	9.5	r. G	न - न -
	Temp In OF		34 56	63	47.	47	0	Q C
	Discharge Temp		1-1/2, est	2 est.	l est.	l est	2 68 ¢	0 8 t
	Dote and time sompled P.S.T	1962	1-2	3-8 0830	5-9	7-2 1210	9-6	11-8

b Laboratory pH

c. Sum of calcium and magnesium in epm. d. (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{*3}), reparted here as 0.0 except as shown. d. Iron (Fe), aluminum (Al), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Al), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{*3}), reparted here as 0.00 except as shown. c Sum of calcium and magnesium in epm.

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents

32505-D-8 6-61 200 SPO h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Lobarataires, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Survey of Reclamation (USBR); United States Geological Survey, Quality of Water Branch (USGS); United States Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Water Resources (DWR); as indicated.

Public Health (LBDPH); Terminal Testing Lobarataires, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE 8-18

ANALYSES OF SURFACE WATER SAM DIEGO REGION (NO. 9) FORESTER CREEK AT MISSION CONDE ROAD (STA. 65a)

		Analyzed by i			DVR											
	2	ds CoCO ₃ 13y MPN/mi			00000	2300										
	1.5	Page -			142 <25	500	-									
		000 000	D E G			104										
			P P P P		437	163										
_	Par	sad -			55	147							 	 		
	Total	solids	2			1,29										
		Other constituents				$PO_{h} = 1.0$ ABs detergents 0.39										
		Silica	12000			임							 			
	50	Boron				0.10										
million	per million	Fluo-	(F)		0.63	0.3										
ports per million	lents	Ni- frate	(NO3)			14						-				
	edoi	Chlo-	(C)		290	3.05					 		 			
		Sul - fate	-		***************************************	81					 		 	 		
1 uents	-	Bicar - bonate			360	72 1.13							 	 		
Mineral constituents	1	Carban-B	(\$0)		000	00.00								 		
Minero	-	S-Ca	ž		olo						 					
		Potas-	÷,			5.7								 		
		Sodium			245	66 2.87								 		
		Calcium Magne-	(Mg)			17					 		 			
		Calcium				37 1.85										
		H			7.4ª	7.48										
	Spacific	(micramhas)			5096	999										
		0 0	%Sat		52	99								 		
			E dd		5.8	0.9										
		Ten Ten Ten Ten Ten Ten Ten Ten Ten Ten			52	61										
		Discharge Temp			3 est.	3 est	Dry No flow	Dry No flow	Dry No flow	Dry No flow						
		peldmos	P S.T	1962		3-7	5-9 B	7-2 D	9.6	11-8						
										-	 		 	 	-	

a Field pH

b Laboratory pH.

c Sum of calcium and magnessum in epm.

Sum of calcium and magnessum in epin.

Iron (F., aluminum (Al), areacit (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr.*3), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents Grovimetric determination.

32505-D-8 6-61 200 SPD h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United Stotes Public Health Service (USPHS); San Bernardino County Flood Chinaral analyses made by United Stotes Geological Survey, Quality of Water Branch (USGS); United Stotes Department of the Interior, Bureau of Reclamation (USBR); United Stotes Public Health Service (USPHS); San Bernardino County Flood Chinaral Section (WMD); Los Angeles Department of Water and Power (LADMP); City of Los Angeles, Department of Water Resources (DWR); or sindicated.

JABIE

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ANALYSES OF SURFACE WATER TABLE : -18

SAN DIEGO RECION (NO. 9) SAN DIEGO RIVER AI MISSION GORGE ROAD (STA. 65c)

	Analyzed by i		DWR			
	Hordness bid - Coliform A as CoCO3 11y MPN/ml Talal N C ppm ppm		2300	1,00	0.4. 0.00	
1	- piq Kda u		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	V 255	N V	
	Pod Pod Pod		223	न	751	
	Hordness as CoCO ₃ Tatol N C ppm		420	420	604	
0	cent tod -		54	55	8	
Total	solids in ppm		1280	1380	1275	
	Other constituents		$MH_{1} = 7.2$ $PO_{1} = 38$ $ABS = 5.0$	$NH_{t} = \frac{41}{22}$ $PO_{t_{t}} = \frac{22}{25}$ $ABs = \frac{5.6}{5.6}$	$M_{H_{1}} = \frac{22/1.23}{36}$ $Po_{4} = \frac{36}{1.3}$ $ABS = \frac{1.3}{1.3}$	
	(SiO ₂)		<u>21</u>	<u> </u>	워	
Illion	Boron (B)		99.0	0.64	47.0	
per million	Fluo- ride (F)		0.09	1.18	पुरे पुरे	
equivalents per mil	Ni- trate (NO ₃)		2.13	0.00	66 1.07	
equiv	Chio- ride (Ci)		317	394	324 9 • 13	
fs in	Sul - fote (SO ₄)		337	346	EEE 70 10 10 10 10 10 10 10 10 10 10 10 10 10	
constituents	Bicor- bonate (HCO ₃)		3.74	376	10.50 10.50	
Mineral co	Carbon- ote (CO ₃)		00.00	000	8	
¥	Potas- sium (K)		18	18	54.0 54.0	
	Sadium (Na)		269	318 13.83	253 11 71	
	Magne- Stum (Mg)		3.91	3.73	14.8°	
	Caterum (Ca)		4 90 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4.59	1.34 1.34	
	£ €		7.38	7.18	7.3ª	
Spacific	conductance (micromhos of 25°C)		2132	2415	2157	
	% Sol		76	£4	8	
			7.6	3.6	9	
	E OF			94	0_	
	Discharge Temp in cfs in of		0.	6 est	6 es t	
	and time sampled P S.T	1962	7-2	9-6	11-3	

b Lobaratory pH.

c Sum of colcium and magnesium in epm

c. Sum of colcium and magnessium in thin. A service (As), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*6), reported here as $\frac{0.0}{0.00}$ except as shown (Fe), aluminum (Al), arsence (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr*6), reported here as $\frac{0.0}{0.00}$ except as shown

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents.

Gravimetric determination.

h Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by Colifornia Department of Public Health, Division of Laboratories, or United States Public Health Service.

3255-5-4 6-61 200 SEC i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States People Health Service (USPHS); San Benardina County Fload County Fload County Fload County District (SBCFCD); Metropolitan Water District of Sauthern California (WMD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Water Resources (DWR); as indicated.

32505-D-E 6-61 200 SPO

ANALYSES OF SURFACE WATER TABLE BLIE

SAN DIEGO REGION (NO. 3) SAN DIEGO RIVER AT OLD MISSION DAM (STA. 65)

	7	1		,						
	Anolyzed by i		DWR	7	DWR	DWR				
	bid - Coliform ity MPN/mi		230		23	62 240				:
5	D - 700		725	Tur-	100	96				
	S C C C C C C C C C C C C C C C C C C C		118 <25	75	192	173				
	Hordness oc CoCO ₃		381	146	346	1771				
P	Sod -		19	45	55	278				
Totol	solved solved in pon			384	946	1402				
	Other constituents		Poh = 21 ABs detergents=5.0		Po _h = 4.4 ABs detergents 1.44	$PO_{h} = 7.0$; $NH_{h} = 0.0$ ABS = 1.1; $AS = 0.00$				
	Silico (SiO ₂)			13	23	91				
lion	Boron (B)		0.57	0.20	0.36	0.48				
ports per million volents per million	Fluo- ride (F)		<u> </u>	0.02	0.02	0.76				
ports per equivolents	Ni- trote (NO ₃)			0.18	25	5.0				
o danie	Chlo- ride (CI)		333 9.39	85	261	460				
Ē	Sul - fate (SO ₄)			70	226	218				
constituents	Bicor- bonate (HCO ₃)		321	36	3.08	364				
	Carbon- ote (CO ₃)		00.00	00.00	00.00	00.00				
Mineral	Potos- Stum (K)		010	000	7.0 5.18	61.0				
	Sodium (No)		272	57 74.2	3.35	306 7				
	Colcium Mogne-		i dei	1.26	3.38	3.12				
	E (o)									
			B 2	4 ^b 33	58 71	2ª 126				
0	E SOCO	-	7.38	7.4p	7.58	© CV				
Specifi	conductance (m.crombos at 25°C)		2180	2770	1539	2358				
			35		41	109				
	Diss		9.6		0.4	00				
	Te a		3	22	S.	98				
	Discharge Temp		15 est.	20 est	20 est	1/2 est.	No inflow Pond not sampled	No inflow Pond not sampled	No inflow Sempled	
	Sompled PST	1962	1-3	2-20 1240	3-7 1330	5-9	7-2	9-6	11-8 2005 2005 2005 2005 2005 2005 2005 200	

o Field pH.

Laboratory pH.

c Sum of calcium and magnesium in epm.

June 16. Johnman Mall, capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reported here as $\frac{0.0}{0.00}$ except as shown.

Determined by addition of analyzed constituents Derived from conductivity vs TDS curves

Gravimetric determination.

Mineral analysas made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Surreau of Reclamption (USBR); United States Geological Survey, Quality of Water Branchine (WWD); Las Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Public Real Mater and Power (LADWP); City of Las Angeles Survey, Control Department of Water Resources (DWR); United State State State State State State Survey and Laboratories, Inc. (TIL); or California Department of Water Resources (DWR); United State h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

TABLE P-18

ANALYSES OF SURFACE WATER SAN DIEGO REGION (NO. 9) SAN DIEGO REGION (NO. 9) SAN DIEGOLIYO RIVER NEAR SAN PASQUAL (STA. 64)

		Anolyzed by i											
		bid - Coliform ily MPN/mi				-		•		 		 	
		- PE								 	 		
F		SON CON											
		Hardras Ca											
	0	e of the control of t									 		
	Totol	dis- solved sotids in ppm											
		Other constituents											
		Since (SiO ₂)											
	lion	<u> </u>											
million	per million	Flug- ride (F)											
ports per million	equivalents p												
٩	equive	Chia- ride (CI)											
1	5	Sul - fote (SO ₄)											
	Mineral constituents	Bicar- bonote (HCO ₃)				•						 	
	aro! con	Carban- ote (CO ₃)											
	Ē	Potas-											
		Sodium (NO)								 			
		Mogne- sum (Mg)									 	 	
		Coleium (Co)									 		
	Sparific	(micromhos of 25°C)											
		yen %So											
-													
-	_	F.C.		A.C	MO	ě	AG.	MO	MO.				
		Discharge Temp in ofs in 9F		Dry No flow	Dry No flow	Dry No flow	Dry No flow	Dry No flow	Dry No flow				
		ond time sompled P.S.T.	1962	1-2	3-8	5-9	1300	9-6	11-8				

a Field pH.

b Labaratory pH.

c. Sum of calcium and magnessum in epm.

c. Sum at calctum and magnestum in epm.

d. Iran (Fe), aluminum (A1), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chramium (Cr*6), reparted here as $\frac{0.0}{0.00}$ except as shawn.

e Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents. Gravimetric determination.

32505-D-H 6-61 200 SPO

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ANALYSES OF SURFACE WATER SAN LUIS REY RIVER NEAR PAIA (STA. 62) TABLE B-18

	Anolyzed by i			USACL						
	de CoCO ₃ ity MPN/mil Total NC nppm		-							
,	Z E E			166Clear						
	N COS									
				294						
	Sod -			8						
Total	dis- paylos belids in pom			610						
	Other canstituants									
	Silica (SiO ₂)			8						
2011	5			0.05						
million	Fluo- ride (F)			0.03						
ports per million				0000						
G. N	Chla-			55						
<u>c</u>	Sul - fots (50 _e)			198						
stituents	Bicor- bonate (HCO ₃)			155 2.55						
Mineral constituents in	Corbon- 016 (CO ₃)			0.00						
Σ	Potos: (X)			0.15						
	Sodium (No)			57						
	Magna- sium (Mg)			27						
	Calcium (Co)			3.64						
L	E E			7.7 ^b						
	conductance (micromhos at 25°C)			785						
	gen %Sat			i.						
	Disso ory ory			1						
	Te C	-		st 50						
	Dischorgs Temp		Dry No flow	1/20 est	Dry No flow	Dry No flow	Dry No flow	Dry No flow	Dry No flow	
	Date ond time sampled P.S.T.	1962	1345	2-20	3-8	5-9	7-2	1345	1345	

-17. -

TABLE DELA

a Field pH

Loborotory pH.

Sum of colchom and magnessian in equi.

Iron (Fe), aluminum (Al), areanic (As), copper (Cu), lead (Pb), mangonese (Mn), zinc (Zn), and hexavalent chromium (Cr*3), reported here as $\frac{0.0}{0.00}$ except as shown. c Sum of colcium and magnesium in epm.

Derived fram conductivity vs TDS curves

Determined by addition of analyzed constituents

g Gravimetric determination.

^{32505-0-8 6-61 200} SPD Mineral analyses made by United States Geological Survey, Quolity of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Department of Water ond Power (LADWP); City of Los Angeles, Department of Water ond Power (LADWP); City of Los Angeles, Department of Water ond Power (LADWP); City of Los Angeles, Department of Survey, Consistent of Substitution (USACL), as Indicated as a Indicated Separtment of Woter Resources (DWR); City of Cates Astrontural Consultants and Laboratories, Inc. (TIL); or California Department of Woter Resources (DWR); City of Cates Astrontural Consultants and Laboratories, Inc. (TIL); or California Department of Woter Resources (DWR); City of Cates Astrontural Consultants and Laboratories, Inc. (TIL); or California Department of Woter Resources (DWR); h Annual median and range, respectively. Calculated fram analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United Stotes Public Health Service.

32505-D-6 6-61 200 SPO

ANALYSES OF SURFACE WATER TABLE BALE

SAN DIEGO REGION (NO. 9) SANTA MARGARIDA RIVER NEAR FALLEROCK (STA. 51c)

		Anolyzad by i		DVR					
	4	bid - Caliform		0.00	6.0	5.0			13
	Tur-	- Pig u		\Z25	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	8		< >>
		Hardness as CaCO ₃ Total N.C ppm ppm		26	107	8	63		20
				337	337	373	379		340
	P gr-	sad -		45	#	142	77		89
	Total	solids solids in ppm				477			765
		Other constituents				$PO_{1_1} = \frac{O_{\bullet}7}{O_{\bullet}OO}$			PO ₄ = 1.8
		(Silico				32			ग <u>ि</u>
	Illon	Boron (B)		0.22	0.17	0.20	0.25		0.21
millior	per million	Fluo- ride (F)				0.64			70.0
ports per militon	equivolents pe	rote (NO ₃)				000			9:00
٩	Ainbe	Chio- ride (CI)		144	151	158	167		3.95
	ا ∍	Sul - fate (SO ₄)				2.96			2 <u>1.12</u>
	BTITUBOTS	Brcar- bonate (HCO ₃)		316	246	364	351		5.30 5.30
	Mineral constituents	Carbon- ofs (CO ₃)		13 0.44	17 0.56	0000	17		08.00
1	ž	Potas- Sium (K)				3.2			0.11
		Sodium (Na)		128 5.57	120	125	136		5.31
		Mognis- Sium (Mg)				27			2.51
		Calcium (Ca)				5.34			1.59
		Ha		7.9ª	7.5ª	7.88	7.8ª		7.7 B 86
	Spacific	(micromhos of 25°C)		1199	1767	1277	1323		
		gan (r		82	đ	6	911		5.61
		OIE80 OKY PPM		9.5	0.6	7.2	9.6		o.
		Temp in of		50	571	70	80	2	8
		Dischorgs Temp in cfs in oF		10 est.	9.0	3.3	1/4 est. 80	No inflow Pond not sampled	*\$\$ 8
		ond fime sampled P.S.T	1962	1-2	3-8	5-9	7-2	9-6	11-8

b Laborotory pH.

Sum of colcium and magnessum in epm.

c Sum of colcium and magnessum in sem.

d Iron (Fe), aluminum (A1), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺³), reported here as $\frac{0.0}{0.00}$ except as shown.

Derived from conductivity vs TDS curves.

Determined by addition of analyzed constituents.

Gravimetric determination.

Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS) , San Bernardina County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (WMD); Los Angeles Department of Water Resources (DWR); as indicated.
Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE GLIB

ANALYSES OF SURFACE WATER

SAN DIEGO REGION (NO. 9) SPRING VALLEY CREEK NEAR IA PRESSA (STA. 65b)

	7									
	Anologe	by 1		DWR						
	Coliform	n ppm MPN/ml		\$\frac{45}{45}	2400	^\\\ \\\\	99	V 700	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
	Tur- bid-k	try e		8	78	99	35	75	000	
	88	S Z Z		181	146	263	208	161	230	
				181	न्तर	575	1462	551	570	
	Pari	- pos eni		61	衣	55	62	52	00	
	drs-	solved solids in ppm		1576	489	1759		1685	0691	
		Other constituents		$M_{h} = 31$		$VH_{1} = 26$; As=0.00 PO ₁ =11; ABs=7.2	$PO_{4} = \frac{57}{12.2}$ ABs = $\frac{12.2}{10.2}$	$PO_{h} = 25$ ABs = 8.6	FO ₁ = 30	
		Silico (SiO ₂)		88	01	75		%	쬛	_
	uo -	Boron (B)		1.07	0.17	1.08	1.33	0.64	0.85	
Ē	180	Fluo- ride (F)		3.9	0.3	0.68		0.42	00.03	
b	- 1	rote (NO ₃)		0.6	55	5.6		2.5	8.	
od	equivolents	Chlo- ride (CI)		422	194	520 14.66	391	508	17.21	
ē		Sul - fate (SO ₄)		379	132	411 8.57		403 3.40	7.88	
constituents		Bicor – bonote (HCO ₃)		366	120	381	301	476	415 0.50	
Mineral cons		Corbon- gie (CO ₃)		00.00	000	000	000	8	8	
Mine		Potos- sium (K)		15	0.10	14		18 0.46	0.44 0.44	
		Sodium (No)		348	133	371	347	365	14.53 14.53	
		Mogne- srum (Mg)		60 4.93	27	43		5.84	5.76	
		Calcium (Ca)		69-1	53 2.64	7.93		105	5.04 5.04	
		H		7.08	B↓↓.}	7.38	7.28	7.58	٠ د	
	Specific	conductance (micromhos of 25°C)		2579	9111	2899	2503	2865	59.0t	
		5		02	η9	91	102	011	133	
		Dissolved oxygen ppm %Sc		4.9	0.9	7.5	7.8	φ σ	0	
	ļ	e e F e		88	67	82	8	82	76	
		Dischorge Temp		4 est.	3 est	3 est	3 est	3 est	W 89	
		. D	1962	1-2 1730	3-7	5-9	7-2	9-6	11.05 2011	

a Field pH

b Loborotory pH.

c. Sum of coletum and magnessum in epm. d. opper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reparted here as 0.0 except as shown. d.iounium (Al), arsenic (As), capper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺⁶), reparted here as 0.00 except as shown. c Sum of calcium and magnesium in epm

Derived from conductivity vs TDS curves

Determined by addition of analyzed constituents

Grovimetric determination

Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Survey of Reclamation (USBR); United States People Survey, Quality of Water Branch (USPRS); United States Department of Water of Power (LADWP); City of Los Angeles, Department of Survey (LADMP); City of Los Angeles, Department of Power (LADMP); City of Los Angeles, Department of Power (LADPH); City of Lang Beach, Department of Water Resources (DWR); a indicated. Annual median and range, respectively Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

32505-0-8 6-61 200 SPC

ANALYSES OF SURFACE WATER

SAN DIEGO REGION (NO. 9) TIA JUANA RIVER AT INTERNATIONAL BOUNDARY (STA. 66)

	nolyzad by i		-										
4	Hordness bid - Coliform Anolyzad as CaCO ₃ 11y MPN/ml by i Total N C ppm ppm								 	 			
-	Z € G								 	 			 -
2	S O UE								 	 			
	Hordness os CoCO ₃ Total N C ppm ppm								 				
a	cent cent												
Total	solved solids in ppm												
	Other constituents												
	Boran Silica (B) (SiO ₂)									 			
n Ilion	Boron (B)									 			
per million	Fluo- ride (F)												
parts per million equivalents per mill	Ni- trote (NO ₃)												
600	Chio- ride (C!)												
S in	Sul - fols (SO ₄)												
tituent	Bicor – banate (HCO ₃)												
Mineral constituents in	Corbon- Ote (CO ₃)										-		
Min	Potos. Sium (K)												
	Sodium (Na)												
	Mogna- sium (Mg)												
	Colcium Magna-												
	Ī												
Spacific	conductonce pH (micromhos pH												
	Dissolved oxygen ppm %Sot												
	Temp in of								 	 		_	
	Dischorgs Temp		Dry No flow	Dry No flow	Dry No flow	Dry No flow	Dry No flow	Dry No flow					
	Dote and time sompled P.S.T	1962	1-2	3-7	5-9 133D	7-2	9-6	11-8					

Determined by addition of analyzed constituents. Derived from conductivity vs TDS curves c. Sum of calcium and magnesium in epm.

b Loborotory pH

c. Sum of calcium and magnesium in 8pm.

d. Iron (Fe), aluminum (AI), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr⁺³), reported here as 0 0 except as shawn a lon (Fe), aluminum (AI), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (AI), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (AI), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (AI), are provided the control of

32505-D-8 6-61 200 sPO Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Labaratories, or United States Public Health Service.

Anneal analysa Mode States Geological Survey, Quality of Water Branch (USSS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Carterial District of Southern California (WWD); Las Angeles Department of Water and Power (LADWP); City of Las Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LADPH); Terminal Testing Labaratories, Inc. (TTL); or California Department of Water Resources (DWR), as indicated.



SPECTROGRAPHIC ANALYSES OF SURFACE WATER

NORTH COASTAL REGION (No. 1)

	_											
	2urZ	(uZ)	20*	20*	33*	20*	20*	13*	13*	20*	20*	
	mn:poug/	(^)	1.0*	1.4	0.4	2.1	1.1	1.0*	1.0*	1.0*	1.7	
	Titanium Vanodium	(T)	2.0*	2.0*	2.0*	2.0*	2.0*	2.0*	2.0*	2.7	2.0*	
	Lead	(Pb)	3.3*	3.3*	3.3*	3.3*	3.3*	3.3	3.3*	3.0*	3,3*	
	Nickel	(N:)	1.4	3.4	4.9	8	2.6	1.4	37	1.8	3.5	
	Molyb.	(Mo)	1.0*	1.0*	1.0*	1.0*	1.0*	1.0*	1.0*	1.0*	1.0*	
noı	<u> </u>	nese (Mn)	3.3*	5.0*	3.3*	3.3*	3.3*	3.3*	3.3*	3.3*	3.3*	
Constituents in parts per billion	H	(Ge)	1.0*	1.0*	1.0*	1.0*	1.0*	1.0*	1.0*	1.0*	1.0*	
in parts	Gallium	(00)	20*	20*	20*	20*	20*	20*	20*	13*	20*	
stifuents	Iron	(Fe)	888	E E	15	27 8.0	5.0	13	0.9	39	3.2	
Con	Capper	(Cu)	5.0*	3.3*	5.0*	3.3*	3.3*	5.0*	5.0*	3.3*	3.3*	
		(C.2)	3.3*	3.3*	3.3*	.3.3*	3.3*	3.3*	3.3*	3.3*	3.3*	
	Coboil	(00)	5.0*	5.0*	3.3*	5.0*	5.0*	5.0*	3.3*	5.0*	5.0*	
	Codmium	(PD)	3.3*	3.3*	3.3*	3.3*	3.3*	5.0*	3.3*	3.3*	3.3*	
	Bismuth	(181)	1.0*	1.0*	1.0*	1.0*	1.0*	1.0*	1.0*	1.0*	1.0*	
	Beryl.	(Be)	1.0*	1.3*	1.0*	1.3*	1.0*	1.3*	1.0*	1.0*	1.0*	
		(AI)	3.3	3.3*	3.3*	8.0	5.6	8.4	123	21,	3.6	
	Date	1962	5/16 9/13	5/8	5/16	5/10	5/8	5/10	9/6	5/10 9/5	5/8 11/6	
	Sto		ង	Q	88	т	<i>=</i>	5c	9	6а	01	
	Station		Klamath River below Iron Gate Dam	Mamath River at Somesbar	Mamath River near Seiad Valley	Mamath River near Mamath	Trinity River near Hoopa	Eel River, Middle Fork at Dos Rios	Eel River at Scotia	Mad River near Arcata	Russian River at Guerneville	

^{*} Results are less than the figure listed. ** Results are equal to but slightly less than the figure listed.



TABLE B-20 SPECTROGRAPHIC ANALYSES OF SURFACE WATER

SAN FRANCISCO BAY REGION (No. 2)

* Results are less than the figure listed.



TABLE B-21 SPECTROGRAPHIC ANALYSES OF SURFACE WATER

CENTRAL COASTAL REGION (No. 3)

	2100	20*	13*	*8	20*	
	maypouo,	3.8	*19.0	1.8	2.8	
	Titanium Vanadium	1.3*	1.3*	*0°0	2.0*	
	Lead T	8.3	3.3*	5.0*	3.3*	
	Nickel (N.)	5.8	3.9	1.6	3.4	
	Matyb- denum	8.0	*79.0	1.7	2.6	
non	Manga. nese	5.0*	3.3*	2.0*	3.3*	
s per billion	Germa -	1	*19.0	1.0*	1.0*	
s in part	Gallium (Ga)	20*	13*	*00	20*	
Canstituents in parts per	lran (Fe)	36	237	0.4	9.0	
S S	Capper (Cu)	33	3.3*	16	3.3*	
	Chra. mium (Cr)	3.3*	3.3*	*0.5	3.3*	
	(Cabatt	85.0*	3*3*	2.0*	5.0*	
	Cadmium (Cd)	5.0*	*:3*	2.0*	3.3*	
	Bismuth (Bi)	1.0*	*19.0	1.0*	1.0*	
	Beryl. lium (Be)	1.0*	1.3*	1.0*	1.0*	
	Alumi. num (AI)	0.4	100***	01	3.3*	
	Date 1962	5/3	6/6	5/1	5/3	
	Sto	14.3	48 ₇	45a	77	
	Statian	Salinas River near Spreckels	Nacimiento River near San Miguel	Santa Ynez River near Solvang	Pajaro River near Chittenden	

* Results are less than the figure listed. *** Results are greater than the figure listed.



TABLE B-22
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

LOS ANGELES REGION (No. 4)

Solves Sol										COD	Constituents in parts per billion	in part	s per bit	noil						
1952 (43) (45) (45) (45) (45) (45) (45) (45) (45	Stotion	Sto	Dote	Alumi.	Beryl.	Bismuth			\vdash	Copoer		<u> </u>	Germo -	Mongo	Molyb.	Nickel	Leod	Titonium	Vanadium	Zinc
1. Verticus, 16 5,5 10.0 1.0° 1.0° 5.0° 5.0° 1.0° 1.0° 5.0° 1.0° 1.0° 5.0° 1.0° 1.0° 5.0° 1.0° 1.0° 1.0° 5.0° 1.0° 1.0° 1.0° 1.0° 1.0° 1.0° 1.0° 1			1962	(AI)	(Be)	(81)	(60)	(00)	(Cr)	(n)	(Fe)	(00)	(Ge)	nese (Mn)	(Mo)	(×)	(Pb)	(10)	(/)	(Zv)
May 5/3 1, 146 1, 147 1	River at Los Angeles - Ventura e	94	5/3	7.1	1.0*	1.0*	5.0*	36.0*	5.0*	18		20*	1.0*	5.0*	1.0*	2.3	5.0*	2.0*	1.7	20*
## 9 5/8 10 0.57 0.20 5.0 1.0 1.0 5.0 1.0	River near Santa Paula	ф	5/3	7.6	1.0*	1.0*	5.0*	5.0*	5.0×	5.0%		5.7*	1.0*	5.0*	1.0*	6.9	5.0*	2.0*	4.2	20*
19 5/3 10°	River at Long Beach	844	5/8	27	1.0*	1.0*	5.0*	21	5.0*			20*		215	1.0*	14	5.0*	2.0*	2.7	20*
Hurmons Lya Sys 10, 10, 10, 10, 10, 10, 10, 10, 10, 10,	Whittier Marrows	64	5/8 9/13	0.4	1.0*	1.0*	5.0*	20.0	5.0*	1.i.*		20*	1.0*	5.0*	1.1	1.7	5.0*	2.0* 0.57*	4.5	5.7*
61 5/3 1.4 0.57 0.29 1.4 1.4 1.4 1.4 5.1 5.7 0.29 1.4 1.4 5.1 5.7 0.29 1.4 5.4 5.4 5.7 0.29 1.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5.4 5	k at Whittler Narrows	26647	5/8 9/13	9.4	1.0*	1.0*	5.0*	5.0*	5.0*	7.9		20*	1.0*	5.0*	1.0*	2.0	5.0*	2.0*	2.5	5.7*
61 5/3 12 1.0° 1.0° 5.0° 5.0° 15, 15, 20° 1.0° 5.0° 1.0° 2.0° 2.0° 1.0° 2.0° 2.0° 2.0° 2.0° 2.0° 2.0° 2.0° 2	River at Whittier Narrows	20	5/8	리.4 6.4	1.0*	1.0*	5.0*	5.0*	5.0*	5.0*		20*	1.0*	5.0*	1.0*	1.1	2.03	2.0*	5.8	20*
	er near Ventura	61	5/3	12.4*	1.0*	1.0*	5.0*	7.0*	5.0*	15,4*		20*	1.0*	5.0*	1.0*	0,00	5.0*	2.0 2.1	0.29*	20*

* Results are less than the figure listed. *** Results are greater than the figure listed.

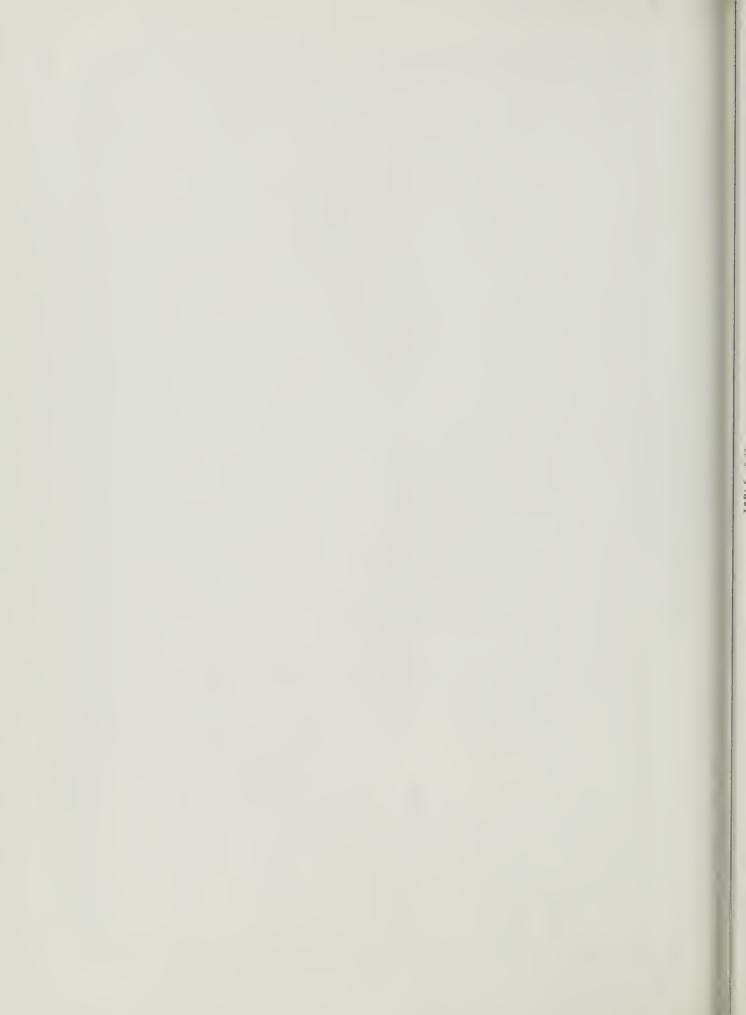


TABLE B-22
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (No. 5)

									Con	stituents	ın part	Constituents in parts per billion	00						
Station	Sto	Date			Bismuth O	Cadmium	Cobalt	-	Capper	iron	Gallium	Germa -	Manga.	_	Nickel	Lead T	Titonium Vonadium	maippuo	Zinc
		1962	(AI)	(Be)	(B)	(00)	(00)	(Cr)	(Cu)	(Fe)	(00)	(Ge)	nese (Mn)	(Ma)	(Sign	(Pb)	(T)	(^)	(Zn)
Sacramento River at Keswick	21	5/1	38 %	1.3*	1.0*	3.3*	3.3*	3.3*	3.3*	60	20*	1.0*	3.3*	1.0*	1.6	3.3*	1.3*	1.8	20*
Sacramento River at Bend	120	5/3	29	1.0*	1.0*	3.3*	5.0*	3.3*	3.3*	35	20*	1.0*	3.3*	1.0*	3.0	3.3*	2.0*	2.0	20*
Sacramento River near Hamilton City	13	5/14	23	1.0*	1.0*	3.3*	3.3*	3.3*	3.3*	8.7	20*	1.0*	3.3*	1.0*	1.2	3.3*	2.0*	2.6	13*
Stony Creek near Hamilton City	138	5/1/4	7.8	1.0*	1.0*	2.0*	*0.5	2.0*	2.0*	3.6	*08	1.0*	*0.5	1.0*	1.0*	5.0*	*0*	1.9	*02
Sacramento River at Colusa	13b	9/19	18	1.0*	1.0*	5.0*	5.0*	3.3*	3.3*	ន្តឧ	20*	1.0*	3.0*	1.0*	0.00	3.3*	1.3*	3.0	20*
Sacramento River above Colusa Trough	7 ⁴ p	5/7 9/19	9.3	1.0*	1.0*	3.3*	5.0*	3.3*	3.3*	7.3	20*	1.0*	3.3*	1.0*	1.2	3.3*	2.3	3.7	13*
Sacramento River at Freeport	15b	5/8	16	1.0*	1.0*	3.3*	3.3*	3.3*	3.3*	32	20*	1.0*	3.3*	1.0*	1.2	***************************************	2.0*	3.5	20*
Sacramento River at Rio Vista	76	5/3	22	1.0*	1.0*	3.3*	5.0*	3.3*	3.3*	40 8.7	20*	1.0*	3.5°	1.0*	2.7	3.3*	2.0*	3.1	20*
Pit River near Canby	17a	5/2	255 113	1.0*	1.0*	3.3*	5.0*	3.3*	3.3*	100***	20*	1.0*	3.3*	1.0*	3.5	3.3*	9.8	15	20*
Feather River near Oroville	13	5/9 11/6	20	1.0*	1.0*	3.3*	3.3*	3.3*	3.3*	36	20*	1.0*	3.3*	1.0*	1.0*		2.0*	1.0	20*
Feather River at Micolaus	8	5/15 9/10	19	1.0*	1.0*	3.3*	3.3*	3.3*	3.3*	39	20*	1.0*	5.0*	1.0*	1.4	3.3*	7.3*	1.6	20*
Yuba River at Marysville	ನ	5/15	72.7	1.0*	1.0*	5.0*	5.0*	3.3*	3.3*	38	20*	1.0*	\$ 0.0	1.0*	1.9	3.3*	2.0*	1.0	20*
American River at Sacramento	8	5/10	10	1.3*	1.0*	3.3*	3.3*	3.3*	3.3*	29	20*	1.0*	3.3*	1.0*	7.6	3.3*	2.0*	1.0*	20*
American River at Nimbus Dam	22a	5/10 9/11	27.	1.3*	1.0*	3.3*	5.0*	5.0*	3.3*	ឧដ	20*	1.0*	3.3*	1.0*	1.0*	3.3*	2.0*	1.0*	20*
Mokelumne River at woodbridge	23	5/10 9/6	42.17	1.0*	1.0*	3.3*	3.3*	3.3*	3.3*	3.45	13*	1.0*	3.3*	1.0*	2.5	3.3*	1.3*	2.7	20*
San Joaquin River at Fremont Ford Bridge	25c	5/1	3.3*	1.3*	1.0*	3.3*	5.0*	3.3*	3.3*	5.6	20*	1.0*	3.3*	1.0*	2.2	5.0*	2.0*	8 6 6	20*
San Joaquin River near Vernalis	2.2	5/1	3.3*	1.0*	1.0*	3.3*	3.3*	3.3*	3.3*	ឧដ	20*	1.0*	3.3*	2.9	1.0*	3.3*	2.0*	3.2	20*
Stanislaus River near Wouth	59	5/1	~ w *	1.0*	1.0*	3.3*	3.3*	3.5*	3.3*	9.3	20*	1.0*	3.3*	1.0*	1.0*	3.3*	1.3*	2.0	20*
				1						1	1	1	1	1		1		1]

* Results are less than the figure listed. ** Results are equal to but slightly less than the figure listed. *** Results are greater than the figure listed.

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TABLE B-23
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (No. 5) (Continued)

									Col	Istituents	in parts	Constituents in parts per billian	gu						
Statian	Sta	Date	,	Beryl-	B.smuth (Cadmium	Caball	Chro-	Capper	Iron	Gallium	-	\vdash	Malyb-	Nickel	Lead	Titanium Vanadium	anadıum	Zinc
		1962	(AI)	(Be)	(Bi)	(DQ)	(00)	(Cr)	(Cu)	(Fe)	(09)	(Ge)	nese (Mn)	denum (Ma)	(N;)	(Pb)	(T-)	3	(uZ)
Tuolumne River at Tuolumne City	33	5/9	3.3	1.0*	1.0*	3.3*	3.3*	5.0*	5.0*	7.0	20*	1.0* 0.67*	5.0*	1.0*	2.4	5.0*	2.0*	1.0*	20*
Merced River near Stevinson	32	5/1	9.4	1.0*	1.0*	5.0*	3.3*	3.3*	3.3*	8.0.8	20*	1.0*	5.0*	1.0*	1.08	3.3*	2.0*	3.4	20*
Kings River below People's Weir	34	5/8	18	1.0*	1.0*	3.3*	5.0*	3.3*	3.3*	었고	20*	1.0*	3.3*	1.0*	1.0*	3.3*	2.0*	1.2	20*
Kern River near Bakersfield	36	5/8	38	1.0*	3.1	3.3*	3.3*	3.3*	3.3*	76	20*	1.0*	3.3*	*0.1	1.0*	3.3.4	2.0*	1.9	20*
Clear Lake at Lakeport	147	5/2	6.5	1.0*	1.0*	3.3*	3.3*	3.3*	3.3*	9.6	20*	1.0*	3.3*	1.0*	3.5	 	1.3*	8.6	20*
Cache Creek near Lower Lake	24	5/2 9/4	3.4	1.3*	1.0*	3.3*	5.0*	3.3*	3.3*	8.6	20*	1.0*	3.3*	1.0*	1.3	3.3*	2.0*	3.9	20*
Bear River near Wheatland	18	5/15 9/10	7.6	1.0*	1.0*	3.3*	28.0*	3.3*	3.3*	EE EE	20*	1.0*	3.3*	1.0*	1.4	3.3*	1.3*	1,0*	20*
Cache Creek near Capay	8	5/2	14 12	1.0*	1.0* 0.67*	3.3*	3.3*	3.3*	3.3*	133	20*	1.0*	3.3*	1.0*	2.1	3.3*	2.0*	2.2	20*
Putah Creek near Winters	81	5/3	9.4	1.0*	1.0*	3.3*	3.3*	3.3*	3.3*	0.8	20*	1.0*	3.3*	1.0*	1.8	3.3.4	2.0*	2.6	20*
Tule River below Success Dam	93	5/10 9/13	9.4	1.0*	1.0*	5.0*	3.3*	3.3*	5.0*	20.4.4.	20*	1.0*	3.3*	1.0*	1.0*	3.3*	1.3*	1.6	20*
Delta-Mendota Canal near Mendota	92	5/1	105 26	1.0*	1.0*	3.3*	5.0*	3.3*	3.3*	15	20*	1.0*	3.3*	2.3	6.0	3.3*	3.4	2.5	20*
Delta-Mendota Canal near Tracy	93	5/8	77	1.3*	1.0*	3.3*	3.3*	3.3*	3.3*	72 62	20*	1.0* 0.67*	3.3*	1.0*	3.7	3.3*	1.3*	5.3	13*
Cosumnes River at McConnell	94a	5/10	375	1.0*	1.0*	*0.5	19	*0.5	*0.5	8	*03	1.0*	*0.5	1,0*	1.4	*0°5	2.0*	1.4	50*
Delta Cross Channel near Walnut Grove	8	5/9	16		1.0*	3.3*	5.0*	3.3*	3.3*	***001	20*	1.0*	3.3*	1,0*	3.0	3.3*	2.0*	8.08	20*
Old River at Mandeville Island	112	5/7	92.94	1.0*	1.0*	3.3*	5.0*	3.3*	5.0*	9 62	20*	1.0*	3.3*	1.0*	2.6	3.3*	2.0*	3.4	20*
																		<u> </u>	
* Results are less than the floure listed.														1		1		1	1

* Results are less than the figure listed. ** Results are equal to but slightly less than the figure listed. *** Results are greater than the figure listed.

TABLE B-24 SPECTROGRAPHIC ANALYSES OF SURFACE WATER

LAHONTAN RECION (No. 6)

	Zinc	(Zn)	13*	20*	20* 5.7*	
	mnipouo/	(^)	1.2 0.67*	1.3	3.4	
	Titanium Vonodium	(T)	2.0*	2.0*	2.0*	
	Leod	(Pb)			5.0*	
	Nickel	(ž	0.67*	1.0*	1.0*	
		(Mo)			1.0*	
Ē		(Wu)	3.0*	5.0*	5.0*	
Constituents in parts per billion		(Ge)	1.0* 5	1.0* 5	1.0* 5	
n parts	Gallium Ge	(00)				
tuents	Iron Gal	(Fe) ((8.0		4.8 2C	
Const	Coaper	(Cu)	3.3*	5.0* 41		
	Chra. Coo		3.3* 3.	5.0* 5.	5.0* 8.4 1.4* 1.4*	
		- 1				
	um Coboli	(00)	5.0*	5.0*	5.0*	
	Bismuth Cadmium	(PD)	3.0*	5.0*	5.0*	
		(B)	1.0*	1.0*	1.0*	
	$\overline{}$	(Be)	1.0*	1.0*	1.0*	
	Alumi-	(AI)	12	8.0	5.7	
	Date	1962	5/9	5/11/9	5/14	
	S10 No		38	53	29	
	Stotion		Lake Tahoe at Tahoe City	Truckee River near Farad	Mojave River near Victorville	

* Results are less than the amount indicated.

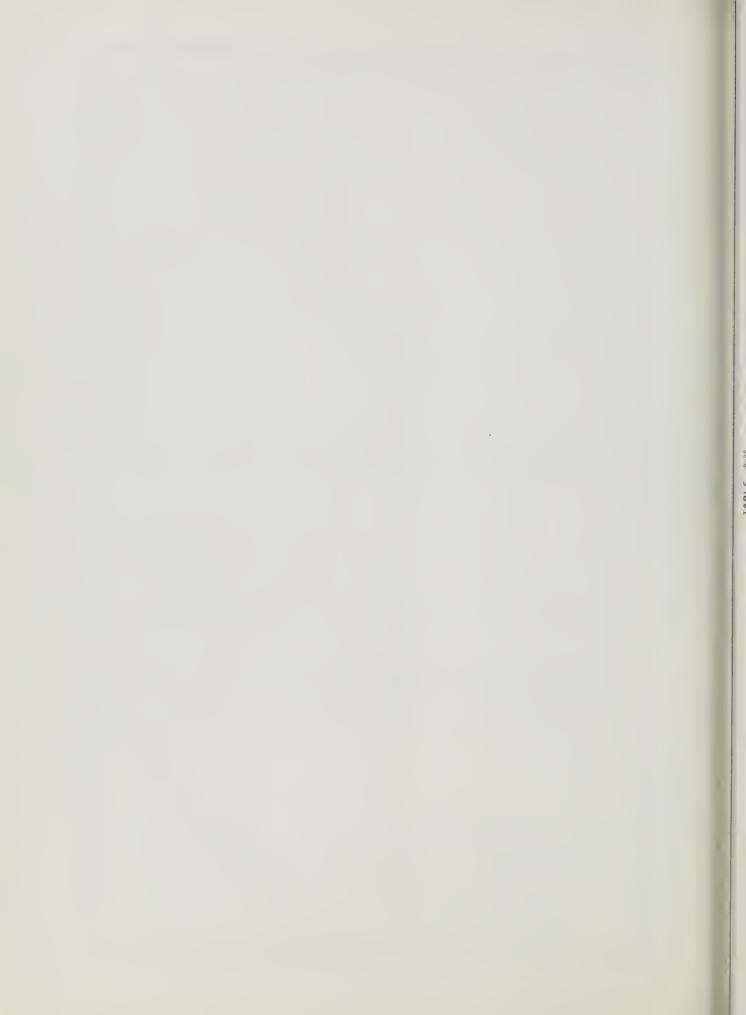


TABLE B-25
SPECTROGRAPHIC ANALYSES OF SURFACE WATER

COLORADO RIVER BASIN REGION (No. 7)

Germo- Mongo- Molyb- Nicket Leod Trianium Vonodium Zinc nium nese denum (Nr) (Pb) (Tr) (V) (Zn)	5.0* 1.0* 1.6 5.0* 2.8 2.8 2.8 1.4* 0.57* 1.7 5.7*
Mongo. Molyb. Nickel Lead nese denum (Mn) (Mo) (Pb)	1.0* 1.6 5.0* 2.0* 1.1.4* 0.57*
Mongo. Molyb. Nickel Lead nese denum (Mn) (Mo) (Pb)	12.0* 1.6 5.0* 1.4*
Mongo. Molyb. Nickel Lead nese denum (Mn) (Mo) (Pb)	1.0*
Mongo. Molyb. nese denum (Mn) (Mo)	1.0*
Mongo. nese (Mn)	
	* * * †
e) .	
Ger	* 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
(09)	50.4 5.7.4
Iron (Fe)	& ' · · ·
(Cu)	ν. τ Ο τ 1
Chro. mium (Cr)	* * O.J.
(00)	**
Codmium (Cd)	* * * O. H.
Bismuth (Bi)	36.0*
Beryl. lium (Be)	1.0*
Alumi.	# Fix
1962	9/38
200	*
Station	Colorado River nt Yuma
	No num livm (Cd) (Cd) (Co) (Cm) (Fe) (Go)



TABLE B-26 SPECTROGRAPHIC ANALYSES OF SURFACE WATER

SANTA ANA REGION (No. 8)

	Zinc	(uZ)	20*	20*	20*	20* 5.7*	
	Vonodium	(^)	4.2	4.8	4.3	2.4	
	Titanium Vanadium	(T.)	3.4	2.0*	2.0* 0.57*	2.0*	
	Lead	(Pp)	5.0*	5.0*	5.0*	5.0*	
	Nickel	(N)	61	1.0	10.4	4.5	
	Molyb-	(MG)	1.0*	1.0*	1.0*	3.1	
lion	Manga.	(Mn)	27 14	5.0*	5.0*	120	
Constituents in parts per billion	Germo -	(Ge)	1.0*	1.0*	1.0*	1.0*	
s in part	Gollium	(00)	20*	20*	20*	20*	
onstituent	iron	(Fe)	33	14.0 P	5.0	4.5 27	
Ö	Copper	(Ca)	98	5.0*	5.0*	28	
	Chro.	(C-)	5.0*	2.0*	2.0*	1.4* 1.4*	
	Cabalt	(Ca)	5.0*	5.0*	*0.5	5.0*	
	Bismuth Codmium	(Cd)	5.0*	5.0*	5.0*	5.0*	
	Bismuth	(81)	1.0*	1.0*	1.0*	1.0*	
	(0)	(Be)	1.0*	1.0*	1.0*	1.0*	
	Alumi.	(AI)	14 39	0.0 *4.1	41 8.0	7:3	
	Date	1962	5/2	5/2	5/7		
	Sta		905	51	51a	51e	
	Stotion		ton	r Arlington	ow Prado Dam	r Norce	
			Warm Creek near Colton	Santa Ana River near Arlington	Santa Ana River below Prado Dam	Santa Ana River near Norce	

Present in sample not determined quantitatively.
Results are less than the figure listed.



TABLE B-27 SPECTROGRAPHIC ANALYSES OF SURFACE WATER

SAN DIECO REGION (No. 9)

		*	
	Zinc (2n)	20*	R. Comments of the comment of the co
	(V)	3.2	51
	Titonium Vonadium (Ti) (V)	2.0*	* oi
	Leod T	5.0*	14
	Nickel (Ni)	16	* o
	Molyb- Adenum (Mo)	1.0*	1.0%
	Mango. M nese d (Mn) (***************************************
billion		* 135 9* 69	
arts per	Germo- nium (Ge)	1.0*	1:0*
ts in pi	(09)	20*	*02
Constituents in parts per billion	Iron (Fe)	13	\$\docume{\text{\$\end{\$\docume{\text{\$\}\end{\$\docume{\text{\$\docume{\text{\$\docume{\text{\$\docume{\text{\$\docume{\text{\$\docume{\text{\$\docume{\text{\$\docume{\text{\$\}}\end{\$\docume{\text{\$\docume{\text{\$\docume{\}\}}{\con{\con{\con{\con{\con{\con{\con{\co
Cor	Capper (Cu)	25	*0.6
	Chro- mum (Cr)	5.0*	* 0 . 0
	Cobolt (Co)	5.0*	* • •
	Cadmium (Cd)	5.0*	***
	Bismuth (Bi)	1.0*	1.0*
	Beryl. fium (Be)	1.0*	1.04
	Alumi- E	6.0	Of Contract of the Contract of
-		9/6	6/5
	Sta	63	<u> </u>
			ដ
	Stotion	rmony Grove	Sen Diego River at Old Mission Dam
		Escondido Creek at Harmony Grove	Miver at Old
		Escondido	San Diego

* Results are less than the figure listed. *** Results are greater than the figure listed.

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RADIOASSAY OF SURFACE WATERS

NORTH COASTAL REGION (NO. 1)

					Micro-micro	curies per liter	
Ş Ş o	Stream	Near	1962	Dissolved Alpha	Solid Alpho	Dissolved Beta	Solid Beta
D.A.	Shasta River	Yreka	5/16 9/13	0.0 ± 0.1	0.0 ± 0.2	4.6 ± 4.7 8.1 ± 4.7	0.5 + 4.6 2.6 + 4.6
113	Scott River	Fort Jones	5/15 9/13	0.1 + 0.2	0.0 ± 0.2	0.4 ± 4.0 4.0 ± 4.9	1.9 ± 4.7
IC	Klamath River	abv Hamburg Res	5/16 9/13	0.0 + 0.2	0.0 ± 0.2	3.9 ± 4.8	0.0 # 4.7
11	Butte Creek	Macdoel	5/15	0.1 + 0.2	0.0 + 0.2	3.9 ± 4.7	0.0 ± 4.6 2.5 ± 4.7
JE	Antelope Creek	Tennant	5/15	0.1 ± 0.2 0.1 ± 0.2	0.0 + 0.2	3.7 ± 4.7	1.3 + 4.6
H	Klamath River	Iron Gate Dam	5/16 9/13	0.0 + 0.2 0.2 0.2 0.2	0.0 + 0.2	5.9 + 4.7	5.6 ± 4.7
CV	Klamath River	Somesbar	5/8	0.1 + 0.2	0.0 + 0.2	1.1 ± 4.5	1.3 ± 4.5
S	Salmon River	Somesbar	5/8 9/4	0.1 + 0.2	0.0 + 0.2	0.4 + 4.4 2.5 + 4.8	2.8 + 4.5
SB	Klamath River	Seiad Valley	5/16 9/13	0.1 # 0.2	0.0 ± 0.2 0.0 ± 0.1	3.4 ± 4.7	2.0 + 4.6
m	Klamath River	Klamath	5/10 9/7	0.1 + 0.2	0.0 +1+1	5.9 ± 4.7	7.1 ± 4.7
3A	Smith River	Crescent City	5/9	0.0 + 0.2	0.0 +1+1	0.0 + + 0.0	0.0 + 4.8
3B	Redwood Creek	Orick	5/10	0.1 + 0.2	0.0 + 0.0	2.4 + 4.7	6.4 + 4.8

TABLE B-28

RADIOASSAY OF SURFACE WATERS

NORTH COASTAL REGION (NO. 1) (continued)

Sto.	Change	202	0		Micro-micro	Micro-micro curies per liter	
	oli edili	loaki .	1962	Dissolved Alpha	Solid Alpho	Dissalved Beta	Solid Beta
	Trinity River	Hoopa	5/8 9/4	0.0 ± 0.2	0.0 ± 0.1	0.0 ± 4.4 6.9 ± 4.7	2.2 ± 4.5
	Trinity River	Lewiston	5/10 9/8	0.0 ± 0.2	0.0 ± 0.2	1.4 ± 4.4	1.6 ± 4.5
	Trinity River	Burnt Ranch	5/10 9/8	0.1 ± 0.2 0.0 ± 0.2	0.0 ± 0.1	0.0 ± 4.8 6.5 ± 4.7	0.0 ± 4.8
	Eel River	McCann	5/9 9/6	0.0 ± 0.2 0.1 ± 0.2	0.0 # 0.2	0.0 ± 4.5 5.7 ± 4.7	4.7 ± 4.6 0.0 ± 4.6
	Van Duzen River	Bridgeville	5/8 9/6	0.0 ± 0.2 0.2 ± 0.2	0.0 ± 0.2	0.0 ± 4.3 1.6 ± 4.7	0.0 ± 4.4
	Outlet Creek	Longvale	5/10 9/12	0.0 ± 0.2	0.0 + 0.2	4.2 ± 4.8 7.5 ± 4.6	7.4 + 0.0
	Eel River, MF	below Dos Rios	5/10 9/12	0.0 ± 0.1	0.0 + 0.2	0.0 ± 4.0	0.9 ± 4.1
	Eel River	near Dos Rios	5/10 9/12	0.0 ± 0.1	0.0 + 0.2	0.0 ± 4.8	0.0 ± 4.7
	Eel River	Scotia	5/8 9/6	0.0 + 0.2	0.0 + 0.2	0.0 ± 0.4 5.8 ± 4.5	0.0 ± 4.5
	Mad River	Arcata	5/10 9/5	0.0 ± 0.2	0.0 # 0.2	4.4 ± 4.8 6.1 ± 4.8	19.3 ± 5.0 10.0 ± 4.6
	Eel River, SF	Miranda	5/9 9/6	0.0 + 0.2	0.0 ± 0.2	8.2 ± 4.7	16.4 ± 4.8
	Mattole River	Petrolia	5/6	0.1 ± 0.2	0.0 ± 0.2	0.0 ± 4.7 3.6 ± 4.6	10.8 ± 4.9

TABLE B-28

RADIOASSAY OF SURFACE WATERS

NORTH COASTAL REGION (NO. 1) (continued)

Sto	Change	SON	200		Micro-micro	Micro-micro curies per liter	
ÖZ			1962	Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
జ్	Russian River	Hopland	5/10 9/13	0.0 ± 0.1	0.1 # 0.2	0.0 ± 4.7 0.0 ± 4.5	0.0 ± 4.7
8B	Navarro River	Navarro	5/9 9/12	0.1 ± 0.1	0.1 # 0.1	1.5 ± 4.7	0.4 ± 4.7 1.6 ± 4.5
8	Big River	Mouth	5/9 9/12	0.0 ± 0.1	0.1 ± 0.2	0.0 ± 4.2	0.0 ± 4.2
0	Russian River	Healdsburg	5/8 9/11	0.1 ± 0.2 0.1 ± 0.2	0.0 ± 0.2	0.5 ± 4.7	3.6 ± 4.7 4.8 ± 4.4
8	Gualala River,SF Annapolis	Annapolis	5/8 9/11	0.0 + 0.2	0.0 ± 0.2	0.0 # 4.0	3.1 ± 4.1 0.0 ± 4.3
10	Russian River	Guerneville	5/8 9/11	0.1 ± 0.2	0.0 ± 0.1	0.0 ± 4.0 0.0 ± 4.4	1.3 ± 4.1
104	Russian River,EF	Potter Vly PH	5/10 9/13	0.2 ± 0.2 0.1 ± 0.2	0.0 ± 0.1	4.0 ± 4.8 6.8 ± 4.6	3.6 ± 4.8 28.5 ± 4.9
100	Noyo River	Fort Bragg	5/9 9/12	0.0 ± 0.2	0.0 ± 0.1	7.6 ± 4.8	0.0 ± 4.6

TABLE B-29

RADIOASSAY OF SURFACE WATERS

SAN FRANCISCO BAY REGION (NO. 2)

	1962 Dissolved Alpha Solid Alpha Dissolved Beta Solid Beta	more $5/4$ 0.0 ± 0.2 0.0 ± 0.2 4.1 ± 4.1 0.0 ± 4.1	ielena $5/8$ 0.0 \pm 0.2 0.0 \pm 0.2 3.3 \pm 4.7 0.0 \pm 4.6 0.0 \pm 4.4 9/13 0.0 \pm 0.2 0.0 \pm 0.2 5.5 \pm 4.6 0.0 \pm 4.4	5/4 0.0 ± 0.1 0.0 ± 0.2 23.3 ± 5.1 0.0 ± 4.7 9/6 0.0 ± 0.1 0.0 ± 0.2 3.4 ± 4.8 0.0 ± 4.7	batos $5/4$ 0.1 ± 0.2 0.3 ± 0.3 0.0 ± 4.4 6.7 ± 4.5 $9/6$ 0.1 ± 0.1 0.4 ± 0.2 5.8 ± 4.7 5.2 ± 4.7	
						0.0 ± 0.2
Date	1962	5/4	5/8 9/13	5/t ⁴ 9/6	5/t ⁴ 9/6	5/2
Negr		Livermore	St. Helena	Niles	Los Gatos	Мадтие
Stream		Arroyo Del Valle Livermore	Napa River	Alameda Creek	Los Gatos Creek	Covote Creek
Sta.	Š.	7.1	72	73	472	80

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RADIOASSAY OF SURFACE WATERS

CENTRAL COASTAL REGION (NO. 3)

Sto	2000				Micro-micro	Micro-micro curies per liter	
Š.			1962	Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
43	Salinas River	Spreckels	5/3	0.3 ± 0.2	0.2 + 0.2 0.3 + 0.2	10.8 ± 4.3	5.3 + 4.3
43A	Salinas River	Paso Robles	5/5	0.1 ± 0.2	0.1 ± 0.2	6.9 ± 4.8	5.8 ± 4.8
43B	Nacimiento River	San Miguel	5/2	0.0 + 0.2	0.1 ± 0.2	0.0 ± 4.8	0.0 ± 4.8 5.0 ± 4.7
7430	Salinas River	Bradley	5/2	0.0 ± 0.2 0.1 ± 0.2	0.1 ± 0.2	3.6 ± 4.8 5.6 ± 4.7	9.7 ± 4.8
ф3р	San Antonio Cr	Pleyto	5/5	0.2 + 0.2	0.1 ± 0.2	7.1 ± 5.1	0.0 ± 5.0
₩ †	Cuyama River	Garey	5/1	0.0 + 0.2	0.0 + 0.1	2.7 ± 5.0	0.00 + +.9
144B	Santa Ynez River	Cachuma Res	5/1 9/10	0.0 + + 0.2	0.0 + 0.2	7.2 ± 4.8 14.1 ± 5.1	0.0 ± 4.7
75	San Lorenzo R	Big Trees Park	5/3	0.0 + 0.2	0.0 + 0.2	0.0 ± 4.1 8.7 ± 4.7	4.1 ± 4.2 0.8 ± 4.7
92	Soquel Creek	Soquel	5/3	0.0 + 0.2	0.0 + 0.2	4.8 + 4.4 3.3 + 4.6	0.0 ± 4.4 0.0 ± 4.4
77	Pajaro River	Chittenden	5/3	0.0 + 0.2	0.0 + 0.2	3.3 ± 4.3 4.8 ± 4.7	0.0 + 4.2
77A	San Benito River	Bear Vly Fire St	5/2 9/4	0.0 + 0.2	0.0 + 0.2	0.0 + 4.5	0.00
83	Carmel River	Robles Del Rio	5/3	0.0 + 0.2	0.0 ± 0.2	0.0 = 4.3	0.0 ± 4.3
%	Uvas Creek	Morgan Hill	5/2 9/4	0.0 + 0.2	0.0 + 0.2	0.1 + 4.5	5.6 ± 4.6

ABLE B-31

RADIOASSAY OF SURFACE WATERS

LOS ANGELES REGION (NO. 4)

2,50					Micro-micro	curies per liter	
S S	Stredm	Near	1962	Dissolved Alpha	Solid Alpha	Dis	Solid Beta
45B	Matilija Creek	above Dam	11/6	0.0 ± 0.1	0.0 ± 0.1	3.8 ± 4.4	2.4 = 4.4
94	Santa Clara R	LA-Ventura Co Ln	9/10	0.0 + 0.2	0.0 + 0.2	1.8 ± 5.0	3.8 ± 5.0
146.A	Santa Clara R	Santa Paula	5/3	0.2 + 0.2	0.3 + 1 + 0.2	11.7 ± 4.9	0.0 ± 4.7
79th	Piru Creek	Piru	5/9 9/10	0.2 ± 0.2 0.3 ± 0.2	0.0 + 0.2	8.8 ± 4.8	5.9 ± 4.8 2.6 ± 4.9
160	Sespe Creek	Fillmore	5/3 9/10	0.6 ± 0.2	0.0 + 0.1	1.8 + 4.9	0.0 + 4.8
39h	Santa Paula Cr	Santa Paula	5/3	0.0 1+1+0.00	0.0 + 0.1	2.7 ± 4.8 4.4 ± 4.4	4.5 + 4.8
46F	Santa Clara R	Hwy 99 Bridge	5/3 9/10	0.2 ± 0.3	0.4 + 0.3	12.3 ± 5.1	25.2 + 5.0
Lή	Los Angeles R	IA-Figueroa St	5/8 9/7	0.1 ± 0.2	0.2 + 0.2	8.6 ± 4.8 5.1 ± 5.0	2.2 + 4.8
84	Los Angeles R	Long Beach	5/8 9/7	0.0 + 0.2	7.4 ± 0.8	4.6 ± 4.8 85.6 ± 5.7	34.7 ± 5.1 29.4 ± 5.0
64	Rio Hondo River	Whittier Narrows	5/8 9/13	0.6 1+1+0.0	0.00	8.3 ± 4.9	0.0 ± 4.8 5.8 ± 4.6
464	Mission Creek	Whittier Narrows	5/8 9/13	0.0 111	0.0 + 0.1	7.9 ± 4.9	5.3 + 4.6
20	San Gabriel R	Whittier Narrows	5/8 9/13	0.7 ± 0.3	0.00	6.2 ± 4.9	0.0 ± 4.7

TABLE B-31

RADIOASSAY OF SURFACE WATERS

LOS ANGELES REGION (NO. 4) (continued)

	Solid Beta	+	2.000	2.6 - 0.0	0.0 + 4.7	0.0 = 4.4
Micro-micro curies per liter	Dissolved Beta	+ + 0	0.0	4.1 = 2.5	6.6 ± 4.8	0.0 T 4.4
Micro-micro	Solid Alpho	() +	N C	V:0 - T:0	0.1 ± 0.1	0.1 ± 0.1
	Dissolved Alpha	(+	7.0	7:0 1	0.2 ± 0.2	0.4 - 0.2
Date	1962	<u>,</u>	ر ر د د/ د	2/40	5/3	9/11
Negr			AZUSA FWI ESE		Ventura	
Stream		ر در شامر در در در در در در در در در در در در در	Dall dabriel n		Ventura River	
Sta.	S.	i c) DO		61	

RADIOASSAY OF SURFACE WATERS

CENTRAL VALLEY REGION (NO. 5)

Sta.	() () () () () () () () () ()	Z	9		Micro-micro	curies per liter	
No.			1962	Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
77	Sacramento River	Delta	5/1 9/12	0.0 + + 0.0 0.0 + 0.0	0.0 ± 0.1	4.6 ± 4.8 6.2 ± 4.8	0.0 + 4.8
11A	Cottonwood Cr	below North Fork	5/3 9/1 ⁴	0.0 + 0.2	0.0 ± 0.2	3.1 + 4.8	0.0 + 4.8
11B	Cottonwood Cr,SF	abv Cottonwood Cr	. 5/3	0.1 ± 0.2	0.0 ± 0.1	1.2 ± 4.8	0.0 + 4.8
12	Sacramento River	Keswick	5/1 9/8	0.0 1+1+0.0	0.0 + 0.2	3.4 + 4.8	2.4 + 4.8
12B	Cottonwood Creek	Cottunwood	5/3 9/14	0.0 ± 0.2	0.00	4.4 + 4.8 2.8 + 5.1	0.0 + 4.8
120	Sacramento River	Bend	5/3 9/11	0.0 + 0.2	0.0 + 0.1	3.4 + 4.8	0.0 + 4.4
12D	Clear Creek	Igo	5/3 9/14	0.2 + 0.2	0.0 + 0.0	3.6 ± 4.8	0.5 + 4.8
13	Sacramento River	Hamilton City	5/14 9/20	0.0 + 0.2	0.0 ± 0.2	3.7 ± 4.6	3.0 ± 4.7
13A	Stony Creek	Hamilton City	5/14	0.1 ± 0.2	0.0 + 0.2	7.4 ± 0.0	0.0 ± 4.6
13B	Sacramento River	Colusa	5/7 9/19	0.0 + 0.1	0.0 + 0.2	7.4 + 0.0	1.4 ± 4.4 0.0 0.0 ± 4.8
130	Stony Creek	Blk Butte DamSite	5/17	0.0 + 0.2	0.0 + 0.2	10.2 ± 4.6	7.6 ± 4.6
13D	Thomes Creek	Paskenta	5/17 9/20	0.0 +1 +1 0.0	0.0 + 0.2	8.4 ± 4.7	0.0 + 4.6

TABLE B-32

RADIOASSAY OF SURFACE WATERS

CENTRAL VALLEY REGION (NO. 5) (continued)

Sto.	(+)	2			Micro-micro	Micro-micro curies per liter	
No.	Siredin	in an	1962	Dissolved Alpha	Solid Alpho	Dissolved Beta	Solid Beta
135	Elder Creek	Pasken ta	5/17 9/20	0.0 + 0.0	0.0 + 0.2	2.7 ± 4.8	5.1 ± 4.7
1.4A	Sacramento Slgh	Knights Landing	5/7 9/19	0.00	0.0 ± 0.2	7.4 ± 0.0 4.0 ± 4.7	0.0 + 4.3
14B	Sacramento River	abv Colusa Trgh	5/7 9/19	0.0 + 0.2	0.0	3.6 + 4.9	0.0 ± 4.7
15B	Sacramento River	Freeport	5/3	0.0 ± 0.2	0.0 +1+1	2.2 + 4.5	1.4 ± 4.5
16	Sacramento River	Rio Vista	5/3	0.0 ± 0.2 0.1 ± 0.1	0.0 + 0.1	7.4 + 4.8	0.0 + 4.8
16A	Calaveras River	Jenny Lind	2/7	0.1 ± 0.2	0.0 ± 0.1	0.0 ± 4.5	0.2 ± 4.5
17	Pit River	Montgomery Creek	5/2 9/17	0.0 + 0.1	0.0 1 1 0.0	3.8 ± 4.5	0.0 + 4.4
17A	Pit River	Canby	5/2 9/17	0.0 + 0.1	0.0 + 0.2	0.0 ± 4.4	0.0 + 4.4
17c	Pit River	Bieber	5/5	0.1 ± 0.2	0.2 + 0.2	4.3 ± 4.4	0.2 ± 4.4
17D	Indian Creek	Crescent Mills	5/9 9/11	0.2 +1+ 0.2 0.2 0.2	0.0 + 0.3	4.6 ± 4.5 5.3 ± 4.7	1.7 ± 4.4 6.6 ± 4.7
18	McCloud River	abv Shasta Lake	5/1 9/12	0.0 + 0.2	0.00	3.5 + 4.5	0.0 ± 4.5

RADIOASSAY OF SURFACE WATERS

		Solid Beto	0.0 ± 4.4	1.8 ± 4.8	0.0 + 4.8	7.4 ± 6.0 4.9 ± 4.4	5.3 ± 4.8	3.0 + 4.9	0.0 + 4.9	0.0 + 4.6	6.9 ± 4.7	7.7 ± 4.8	11.0 ± 4.8	1.1 + 4.8
	Micro-micro curies per liter	Dissolved Beto	0.0 ± 4.4 24.0 ± 5.2	3.4 ± 4.8 9.5 ± 4.8	1.0 ± 4.8	8.4 + 4.9	7.2 ± 4.8	5.0 + 4.9	3.4 + 4.9	1.0 ± 4.7	1.2 ± 4.7 7.4 ± 4.6	10.0 ± 4.9	1.9 + 4.7	0.2 + 4.8
(continued)	Micro-micro	Solid Alpho	0.0 + 0.2	0.0 # 0.1	0.0 ± 0.2	0.1 + 0.2 0.2 0.1	0.0 ± 0.2	0.0 +1+1	0.00	0.0 + 0.1	0.0 + 0.2	0.0 + 0.0	0.0 + 0.3	0.0 + 0.2
REGION (NO. 5)		Dissolved Alpho	0.0 + 0.2	0.1 # 0.2	0.0 + + 0.0	0.0 +1+	0.0 ± 0.2	0.0 +1 +0.0	0.0 + 0.2	0.0 + 0.0	0.001	0.1 + 0.2	0.0 +1+1 0.0 0.0 0.0 0.2	0.0 111
CENTRAL VALLEY	Date	1962	5/2 9/18	5/9	5/15	d 5/15 9/10	5/15	5/15	5/15 9/10	5/10	5/10	5/10 9/11	5/10 9/11	5/10 9/6
CENTR	Neor		Likely	Oroville	Nicolaus	blw Shanghai Bend	Mouth	Marysville	Smartville	Sac-H St Brdg	Nimbus Dam	Auburn	Lotus	Woodbridge
	Stream		Pit River, SF	Feather River	Feather River	Feather River	Bear River	Yuba River	Yuba River	American River	American River	American R, MF	American R, SF	Mokelumne River
	Sta.	No.	18A	19	50	20A	20B	21	SIA	22	22A	22B	22C	23

TABLE B-32

RADIOASSAY OF SURFACE WATERS

CENTRAL VALLEY REGION (NO. 5) (continued)

2	2				Micro-micro	Micro-micro curies per liter	
ž Ž	Stredm	Near	1962	Dissolved Alpho	Solid Alpha	Dissolved Beta	Solid Beta
23A	Mokelumne River	Lancha Plana	5/10 9/5	0.0 ± 0.1	0.0 + 0.2	4.3 + 4.8	0.0 + 4.8
24	San Joaquin R	Friant	5/7	0.1 + 0.3	0.0 + 0.2	3.3 ± 4.7 5.1 ± 5.0	4.6 ± 4.7 0.0 ± 4.9
24C	Salt Slough	San Luis Ranch	5/1	0.6 + 0.3	1.2 ± 0.4	7.8 ± 4.6	5.6 ± 4.6
25	San Joaquin R	Mendota	5/1	0.2 + 0.2	1.0 + 0.4	2.2 + 4.7 2.0 ± 4.9	5.6 + 4.8
25B	San Joaquin R	Hills Ferry Brg	5/1	0.2 + 0.3	0.3 + 0.3	0.0 ± 4.6	2.2 ± 4.7 2.1 ± 5.0
250	San Joaquin R	Fremont Ford Brg	5/1	0.6 ± 0.3	0.5 ± 0.3	0.0 + 4.6	3.1 + 4.9
56	San Joaquin R	Grayson	5/9 9/3	0.6 + 0.3	1.2 ± 0.4	3.9 ± 4.8	10.9 ± 4.8
26A	San Joaquin R	Maze Road Brg	5/9 9/8	0.4 ± 0.3	0.6 ± 0.3	8.0 t 4.8 2.9 t 4.8	4.3 ± 4.6 3.6 ± 4.8
26B	San Joaquin R	Crows Landing Br	5/1 9/6	0.3 + 0.2	0.3 + 0.2	0.0 + 4.3	0.0 + 4.3
27	San Joaquin R	Vernalis	5/1 9/6	0.1 ± 0.2 0.4 ± 0.2	0.3 ± 0.3	0.0 ± 4.2	0.0 + 4.2 3.4 + 4.8
27A	San Joaquin R	Patterson	5/1	0.5 ± 0.4	0.1 + 0.3	0.0 + 4.6	2.7 ± 4.7 5.1 ± 4.9
28	San Joaquin R	Antioch	5/8	0.0 + 0.2	0.3 + 0.3	3.9 ± 4.7	0.0 + 4.6

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RADIOASSAY OF SURFACE WATERS

CENTRAL VALLEY REGION (NO. 5) (continued)

j	1		(Micro-micro	Micro-micro curies per liter	
No.	Stream	Near	Date 1962	Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
29	Stanislaus River	Mouth	5/1 9/6	0.3 + 0.2	0.0 + 0.2	6.4 ± 4.4 4.3 ± 4.8	1.8 + 4.4
29A	Stanislaus River	blw Tulloch Dam	5/10 9/4	0.2 ± 0.2 0.1 ± 0.1	0.0 ± 0.2	0.0 + 4.5	3.2 ± 4.7 5.0 ± 4.8
30	Tuolumne River	at Hickman- Waterford Brg	8/6	0.1 ± 0.2	0.1 ± 0.2	5.3 ± 4.5	4.4 ± 0.0
31	Tuolumne River	Tuolumne City	5/9	0.6 4 0.3	0.2 + 0.2	3.6 ± 4.6 7.8 ± 4.8	0.0 + 4.5
31A	Tuolumne River	blw Don Pedro Dam	a 5/9 9/8	0.0 + 0.2	0.00	2.6 ± 4.4	6.2 + 4.3
32	Merced River	Stevinson	5/1	0.2 ± 0.3	0.7 + 0.3	6.0 + 4.0	9.4 + 9.0
32A	Merced River	blw Exchequer Dam	n 5/10 9/4	0.0 + 0.2	0.1 + 0.2	3.2 + 4.5	4.4 + 0.0
33B	Kings River	blw Pine Flat Dam	n 5/1 9/3	0.1 + 0.2	0.0 ± 0.2	3.0 ± 4.5	4.3 ± 4.6
330	Kings River	blw North Fork	5/1 9/3	0.2 ± 0.2 0.1 ± 0.2	0.00 + 0.2	3.6 ± 4.9	0.0 + 4.9
33D	Big Creek	abv Pine Flat Dam	n 5/1	0.1 ± 0.2	0.1 ± 0.2	2.9 ± 4.5	2.3 ± 4.5
34	Kings River	blw Peoples Weir	5/8	0.0 ± 0.2	0.0 + 0.2	0.0 4.4 4.8	0.0
35	Kaweah River	blw Terminous Dam	n 5/8 9/5	0.0 + 0.2	0.0 + 0.2	4.7 ± 4.5 11.0 ± 4.8	2.4 + 4.5

TABLE B-32

RADIOASSAY OF SURFACE WATERS

CENTRAL VALLEY REGION (NO. 5) (continued)

Sto.	Stream	Neor	Date	Discolved Alpha	Micro-micro curies per liter	Dissolved Retail	Solid Beta
-0-			7205		חווליא חווסר	חופפסו אבס חבום	ונ
36	Kern River	Bakersfield	5/8 9/5	0.4 + 0.3	0.2 ± 0.2 0.1 ± 0.2	0.0 ± 4.6 2.8 ± 5.0	1.7 + 4.6
36A	Kern River	blw Isabella Dam	5/1 9/4	0.0 + 0.2	0.6 ± 0.3	2.4 + 4.3 5.9 + 4.9	1.7 ± 4.3
36B	Kern River	Kernville	5/1 9/4	0.3 + 0.3	0.6 ± 0.3	9.7 ± 4.3	6.1 ± 4.2
47	Clear Lake	Lakeport	5/2 9/4	0.0 + 0.2	0.0 ± 0.2	1.4 ± 4.8 10.3 ± 4.8	0.0 ± 4.8
45	Cache Creek	Lower Lake	5/2 9/4	0.1 ± 0.2 0.1 ± 0.2	0.0 ± 0.2	4.2 ± 4.8	0.0 + 4.6
78	Bear River	Wheatland	5/15 9/10	0.2 + 0.2	0.0 ± 0.1	1.8 + 4.8 6.3 + 4.8	0.0 + 4.7
42	Cache Creek, NF	Lower Lake	5/2 9/4	0.0 + 0.2	0.0 ± 0.2	0.0 ± 4.7 6.1 ± 4.7	0.0 ± 4.7 2.1 ± 4.6
8	Cache Creek	Capay	5/2 9/4	0.0 ± 0.1	0.0 ± 0.2	2.5 ± 4.7 5.0 ± 4.7	3.0 ± 4.7
81	Putah Creek	Winters	5/3 9/4	0.0 ± 0.2	0.0 ± 0.2	0.0 ± 4.7	0.0 ± 4.7
85A	Big Chico Creek	Chico	5/14	0.0 ± 0.2	0.0 ± 0.2	2.9 ± 4.7	9.4 ± 0.0
87	Colusa Trough	Colusa	5/7 9/19	0.0 + 0.2	0.1 ± 0.2	5.3 ± 4.8	5.8 ± 4.8 2.7 ± 4.8
87A	Sacramento River	Butte City	5/7 9/19	0.0 + 0.2	0.0 + 0.2	3.0 + 4.6	3.3 + 4.6 2.9 + 4.8

TABLE

RADIOASSAY OF SURFACE WATERS

CENTRAL VALLEY REGION (NO. 5) (continued)

Sta	2004)		9.0		Micro-micro	Micro-micro curies per liter	
Š		loan.	1962	Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
88A	Cow Creek	Millville	5/3 9/14	0.0 + 0.2	0.0 + 0.2	0.0 ± 4.8	0.0 + 4.8
88B	Battle Creek	Cottonwood	5/3 9/11	0.1 ± 0.2	0.0 + 0.2	3.4 + 4.8	0.0 ± 4.8
88c	Antelope Creek	Mouth	5/1 9/11	0.0 ± 0.2	0.0 ± 0.2	7.8 + 4.6	7.7 + 4.6
88D	Redbank Creek	Red Bluff	5/17	0.1 ± 0.2	0.0 ± 0.2	7.1 + 4.7	1.9 ± 4.6
88 E	Antelope Creek	Red Bluff	5/1 9/11	0.0 + 0.2	0.0 + 0.2	0.4 ± 4.1	0.0 + 4.1
886	Paynes Creek	Red Bluff	5/3 9/11	0.0 + 0.2	0.00 + 0.1	5.8 + 4.4 2.2 2.1 + 4.5	2.3 ± 4.4 0.1 ± 4.5
91	Tule River	blw Success Dam	5/10 9/13	0.0 + 0.2	0.0 + 0.2	0.0 ± 4.3	0.0 + 4.3
92	Delta Mendota Canal	Mendota	5/1 9/7	0.2 ± 0.2 0.1 ± 0.1	0.0 ± 0.1	0.5 + 4.8	0.0 + 4.8
93	Delta Mendota Canal	Tracy	5/8 9/6	0.0 + 0.2	0.5 ± 0.3	8.0 ± 4.4	13.4 ± 4.5
76	Cosumnes River	Michigan Bar	5/10	0.0 + 0.2	0.0 + 0.2	3.8 ± 4.7 4.5 ± 4.6	1.1 ± 4.6 2.1 ± 4.5
A4/6	Cosumnes River	McConnell	5/10	0.2 + 0.2	0.2 ± 0.2	4.3 + 4.9	2.5 ± 4.9
95A	Elder Creek	Gerber	2/1	0.0 + 0.2	0.0 ± 0.2	7.4 + 0.0	4.4 + 0.0
95B	Thomes Creek	Mouth	2/2	0.0 ± 0.1	0.1 ± 0.2	1.2 ± 4.4	0.0 ± 4.3

TABLE B-32

RADIOASSAY OF SURFACE WATERS

CENTRAL VALLEY REGION (NO. 5) (continued)

Sto	Chicago		2		Micro-micro	Micro-micro curies per liter	
Š	Sireum		1962	Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
66	Little Potato Sl	Terminous	5/9 9/4	0.1 + 0.2	0.0 ± 0.1	0.0 ± 4.8	0.0 + 4.8
102	San Joaquin R	Mossdale Bridge	5/7	0.0 + 0.3	0.0 + 0.3	3.3 + 4.6 23.0 + 4.9	6.0 ± 4.7
103	Old River	Tracy	5/7	0.3 + 0.3	0.3 + 0.3	3.0 ± 4.6 5.1 ± 4.6	2.2 + 4.6
103A	Grant Line Canal	Tracy Road Brg	2/7	0.0 ± 0.2	4.0 ± 8.0	1.3 ± 4.6	3.5 ± 4.7
104	Old River	Clifton Ct Ferry	5/28 9/6	0.2 ± 0.2	0.3 ± 0.2	8.2 ± 4.5 0.3 ± 4.5	7.9 ± 4.5
106	Italian Slough	Mouth	5/8 9/6	0.1 ± 0.2	0.3 + 0.2	3.1 ± 4.8 3.7 ± 4.4	0.0 ± 4.7
107	Indian Slough	Brentwood	5/8	0.0 ± 0.1	0.5 + 0.2	0.0 ± 4.7	0.4 ± 4.7
108	Old River	Orwood Bridge	5/8	0.0 ± 0.2	0.5 + 0.3	1.4 ± 4.5	4.5 ± 4.6 0.9 ± 4.5
109	Rock Slough	Knightsen	5/8	0.0 + 0.2	0.2 + 0.2	9.8 + + 1.7	1.1 + 4.5
113	Fresno River	Daulton	2/1	0.1 ± 0.2	0.5 ± 0.3	0.2 ± 4.4	5.7 ± 4.5
114	Chowchilla River	Raymond	2/1	0.0 ± 0.2	0.0 ± 0.2	9.4 ± 0.0	9.4 = 0.0

TABLE B-33

TABLE B-33

RADIOASSAY OF SURFACE WATERS

LAHONTAN REGION (NO. 6)

Sto.	Streom	N N	Date		Micro-micro	Micro-micro curies per liter	
No.			1962	Dissolved Alpha	Solid Alpho	Dissolved Beta	Solid Beto
17B	Susan River	Susanville	5/2 9/18	0.2 + 0.2	0.0 + 0.1	0.0 ± 4.4	0.0 + 4.5
37	Lake Tahoe	Tahoe Vista	5/9	0.0 + 0.2	0.0 + 0.2	0.4 + 4.7	2.3 + 4.7
38	Lake Tahoe	Tahoe City	5/9	0.0 + 0.2	0.2 + 0.2	4.4 ± 4.9 6.4 ± 4.9	5.0 + 4.9
39	Lake Tahoe	Bijou	5/10	0.1 + 0.2	0.2 + + 0.2	0.0 + 4.8	0.0 + 4.8
52	Truckee River	Truckee	5/9 9/12	0.1 + 0.1	0.0 + 0.1	0.00	0.0 ± 4.6 0.0 ± 4.7
53	Truckee River	Farad	5/11 9/14	0.0 + 0.2	0.0 + 0.2	1.6 ± 4.8	3.1 + 4.8
19	Mojave River	Victorville	5/1 ⁴ 9/12	0.8	0.3 + 0.2	10.2 + 4.8	6.4 + 4.9
67A	Mojave River	The Forks	5/14	0.5 + 0.3	0.0 + + 0.2	10.1 ± 4.9 5.0 ± 4.6	8.1 + 4.9
115	Carson River, EF	Markleeville	5/10	0.0 # 0.2	0.0 11 0.0	5.5 + 4.8	5.4 + 4.8
115A	Carson River, WF	Woodfords	5/10	0.1 + 0.2	0.0 + + 0.0	3.1 ± 4.8 5.1 ± 4.7	5.7 ± 4.8
116	West Walker R	Coleville	5/10 9/13	0.0 1+1 0.0 0.2 1+1 0.2	0.2 + 0.3	3.3 + 4.6	3.8 + 4.8
116A	East Walker R	Bridgeport	5/10	0.3 # 0.2	0.00	7.8 + 5.0	8.9 4 4.8

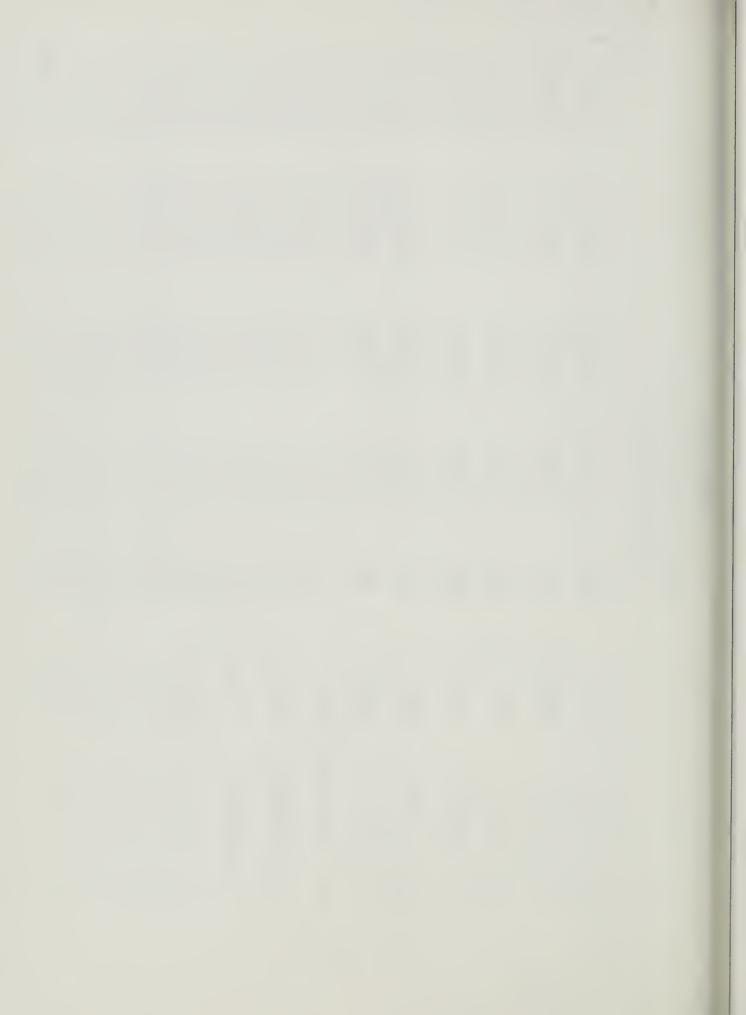


TABLE B-34

RADIOASSAY OF SURFACE WATERS

COLORADO RIVER BASIN REGION (NO. 7)

Sto.	8004)	N N	0		Micro-micro	curies per liter	
No.			1962	Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
54	Colorado River	Topock, Arizona	5/15	0.6 ± 0.3	0.0 ± 0.2	12.9 ± 4.9	3.4 ± 4.8
55	Colorado River	blw Parker Dam	5/15 9/18	0.6 + 0.3	0.0 + 0.2	14.4 ± 5.0	0.0 + 4.8
99	Colorado River	Yuma, Arizona	6/6	0.2 ± 0.2	0.1 ± 0.2	9.5 ± 5.4	0.0 ± 5.2
56A	All American Canal	Pilot Knob	5/16	0.5 ± 0.3	0.1 ± 0.2	11.8 ± 4.8	9.4 ± 0.0 4.4 ± 0.4
56B	Colorado River	blw Morelos Dam	5/16 9/5	0.0 + 0.2	0.00	7.4 ± 4.9	2.3 + 4.8
29c	Colorado River	Blythe	5/15 9/18	0.6 + 0.3	0.0 ± 0.2	4.0 ± 4.9	0.0 ± 4.9
57	New River	Int'l Boundary	5/10 9/5	0.0 + 0.2	0.2 + 0.2	6.1 ± 4.8 20.2 ± 4.7	2.7 + 4.7
58	New River	Westmoreland	5/10 9/4	0.0 ± 0.2	0.6 ± 0.3	11.5 ± 4.9	18.8 ± 5.0 15.9 ± 4.6
59	Alamo River	Int'l Boundary	5/10	0.0 + 0.2	0.1 + 0.3	11.1 + 4.8	5.0 ± 4.7
9	Alamo River	Calipatria	5/10 9/4	0.3 + 0.0	0.9 ± 0.3	2.5 ± 4.9 8.6 ± 4.6	6.2 + 4.9 8.8 + 4.6
68	Whitewater River	Whitewater	5/10 9/4	0.9 ± 0.3	0.0 ± 0.1	0.3 ± 4.8	0.0 ± 4.7

TABLE B-34

RADIOASSAY OF SURFACE WATERS

COLORADO RIVER BASIN REGION (NO. 7) (continued)

Sta.	Stream	Near	Date	-	Micro-micro	Micro-micro curies per liter	
0			1962	Dissolved Alpho	Solid Alpha	Dissolved Beta	Solid Beta
68A	Salton Sea	State Park	5/10	0.1 ± 0.1	0.1 ± 0.1	4.8 ± 4.8	0.5 ± 4.7
			4/6	0.0 ± 0.0	0.0 ± 0.2	10.9 ± 4.6	0.0 ± 4.5
68B	Whitewater River	Mecca	2/10	0.3 ± 0.2	1.4 ± 0.4	15.3 ± 5.0	16.9 ± 5.0
			₄ /6	0.0 ± 0.1	0.7 ± 0.3	12.6 ± 4.7	20.1 ± 4.8

TABLE B-35

RADIOASSAY OF SURFACE WATERS

SANTA ANA REGION (NO. 8)

7					Micro-micro	curies per liter	
No.	Stream	Near	1962	Dissolved Alpha	Solid Alpha	Dissalved Beta	Solid Beta
50B	Warm Creek	Colton-F Street	5/7 9/4	0.0 + 0.2	0.2 + 0.3	12.7 ± 4.9	1.7 ± 4.7
51	Santa Ana River	Arlington	5/7 9/12	0.8 + 0.3	0.2 + 0.2	14.0 ± 4.9	0.5 ± 4.7
51A	Santa Ana River	Prado Dam	5/7	0.5 ± 0.3	0.3 + 0.3	12.8 ± 4.9	7.9 ± 4.9
51B	Santa Ana River	Mentone	5/7 9/12	1.7 ± 0.4	0.7 ± 0.3	4.8 + 4.7	8.4 ± 4.8
51E	Santa Ana River	Norco	5/7 9/12	0.0 + 0.2	0.2 ± 0.2 0.3 ± 0.2	1.7 ± 4.6	2.8 + 4.6
98	Chino Creek	Chino	2/2	0.0 ± 0.2	0.2 ± 0.2	20.6 ± 5.1	6.3 ± 4.9



TABLE B-36

RADIOASSAY OF SURFACE WATERS

SAN DIEGO REGION (NO. 9)

2			6		Micro-micro	Micro-micro curies per liter	
S o	Stream	Near	1.962	Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
63	Escondido Creek	Harmony Grove	9/6	2.0 ± 2.0	0.5 ± 0.2	22.3 ± 5.3	1.0 ± 5.0
65	San Diego River	Old Mission Dam	6/9	0.1 ± 0.2	0.8 ± 0.3	9.3 ± 4.9	0.0 + 4.8
65B	Spring Valley Cr	La Pressa	5/9 9/6	0.0 ± 0.1	1.5 ± 0.4	6.0 ± 4.8	5.0 ± 4.8
65c	San Diego River	Mission Gorge Rd 9/6	9/6	0.0 ± 0.1	1.2 ± 0.3	18.3 ± 5.1	4.0 ± 5.0



DESCRIPTION OF SALINITY OBSERVATION STATIONS

1961-62 Water Year

Station	Miles from Golden	Ti: Inte (b	rval	Locatioo
	Gate (a)	Hours	Min.	
				SAN FRANCISCO, SAN PABLO, AND SUISUN BAYS
Sobrante Beach	20.5	2	50	South shore of San Pablo Bay from wharf approximately 1.5 miles upstream from Point Pinole.
Crockett	27.7	3	30	West end of Carquinez Strait, south shore, 0.2 mile east of Carquinez Bridge on whart of C. and H Sugar Refinery Corporation.
Benicia	32.5	3	50	East end of Carquinez Strait, north shore, 1.1 miles west of Southern Pacific Company railroad bridge at Benicia Arsenal.
Marticez (c)	32.7	3	50	East eod of Carquinez Strait, south sbore, 1.0 mile west of Southero Pacific Company railroad bridge at Municipal Ferry Slip. (Bulls Head Point.)
West Suisun	37.0	l,	10	West end of Suisun Bay, north shore, 2.5 miles northeast of Southern Pacific railroad bridge at service pier of U. S. Maritime Commission, Reserve Fleet mooring area.
Innisfail Ferry	47.3	Ł,	50	Montezuma Slough, about one east of junction with Cutoff Slough near north end of Grizzly Island.
Port Chicago	41.0	l,	20	South shore of Suisun Bay at U. S. Naval ammunition loading wharf below Fort Chicago.
Spoonbill Creek	48.9	5	05	At Sacramento Nortbern Railroad crossing.
Pittsburg	48.0	5	00	East end of Suisum Bay, south shore, at Pittsburg Yacht Harbor.
				SACRAMENTO RIVER DELTA
Collinsville	50.8	5	25	Sacramento River, north bank at junction with San Joaquin River.
Emmaton	57.6	5	45	Sacramento River, south bank, 5.9 miles downstream from Rio Vista.
Threemile Slough Bridge	60.0	5	55	At junction of slough and Sacramento River.
Rio Vista Bridge	63.5	6	05	At highway bridge near northerly limits of Rio Vista.
Isleton Bridge	68.7	6	30	Sacrameoto River, one mile upstream from Isleton.
				San joaquin river delta
Antiocb	54.9	5	5 5	San Joaquin River at City Water Works pumping plant.
Antioch Bridge	58.2	6	10	South sbore San Joaquin River at Antioch Bridge.
Jersey Island	60.9	6	50	San Joaquio River, left bank approximately 1.5 miles below mouth of False River.
Threemile Slough	64.2	6	30	Threemile Slough, west bank, of junction of slough with the San Joaquin River.
Oulton Point	67.2	6	40	San Joaquin River, right bank, three miles upstream from junction of Threemile Slough.
San Andreas Landing	70.3	6	55	San Joaquin River, right bank, one mile below the mouth of the Mokelumne River.
Opposite Central Landing	72.0	7	00	Mokelumne River on Andrus Island directly opposite Ceotral Landing on Bouldin Island.
Dutch Slough	73.0	7	05	At Bethel Island Bridge.
East Contra Costa Irrigation District	86.7	8	50	Indian Slough at East Cootra Costa Irrigation District pumping plant.
Clifton Court Ferry	94.2	9	10	Old River Just below junction with Grant Line Canal.
Mossdale Bridge	108.5	10	50	San Joaquin River at U. S. 50 Highway crossing about three miles southwest of Lathrop.
Vermalis	127.0	n	00	San Joaquin River at Durham Ferry Bridge above tidal influence.

a Mileage measured to station along main channel. For stations off the main channel, the mileage shown is the same distance along the main channel to a point whereou the time of the occurrence of the tidal phase is the same as that of the observation station.
 b Time interval between high tide at Golden Cate and time for taking samples at station.
 c As of September 22, 1962, sampled from Shell Oil Company dock, about 0.6 mile downstream from Southern Pacific Company railroad bridge.



TABLE B-38

MAXIMUM OBSERVED SALINITY AT BAY AND DELTA STATIONS

	<u> </u>					Water	Year					
Station (a)	1931	1938	1939	1944	1952	1955	1956	1958	1959	1960	1961	1962
Sacramento-San Joaquin System Unimpaired Runoff in percent of average (d)	34	188	49	62	168	63	175	166	66	70	61	
				San	Francisc	o, San P	ablo, and	Suisun	Bays			
Sobrante Beach**					14200	19000	16200	13800	17200	16400	15000	15600
Crockett					13200	16600	15300	11900	15000	13500	19900	13900
Benicia				13900	10400	15100	12300	12100	19200	13000	14000	12300
Martinez	16900	11600	16400		8900	11900	11900	7150	10200	8750	11600	12700
West Suisun					7900	12600	11200	7520	13200	11100	13200	11100
Innisfail Ferry	14000	3300	13600	7900	4200	5780	5200	3040	9640	6610	13900	5690
Port Chicago					6900	12500	9750	5830	15640	10700	11900	9370
Spoonbill Creek	13900	2560	11800	7300	2800	6400	4040	930	6270	5040	5900	3540
Pittsburg				9	1200	7800	3440	1200	5110	3700	3920	3980
								l				
					Sa	cramento	River De	lta	I			
Colliosville	12600	860	10400	4700	783	3880	2280	550	5430	4500	4300	2430
Emmaton						1080	158	29	2600	1580	2070	841
Threemile Slough Bridge	8600		5900	1610	175	635	56	18	1480	807	633	232
Rio Vista Bridge	7400		4050	550	175	158	21	17	219	87	69	52
Isleton Bridge	6350		2500	50	125	23	17	14	20	19	18	18
					San	Joaquia	River De	lta				
	12400	510	9200	4000	354	3320	1270	184	3410	2800	2930	1770
Antioch	12400)10	7200	1000		2360	160	122	2570	1490	1360	479
Antiocb Bridge						1130	152	52	1220	e	e	84
Jersey Island Threemile Slough						428	82	45	1900	451	489	130
Oulton Point						376	105	44	567	406	596	150
San Andreas Landing						98	66	46	248	125	345	57
Opposite Central Landing	4250	100	1380	200	250	36	96	17	46	58	34	27
Dutch Slough	5100	110	2250	690	88	454	107	110	1044	548	825	192
East Contra Costa Irrigation District			320	140	152	196	173	333	356	227	278	222
Clifton Court Ferry	1300		190		112	146	146	126	211	173	191	246
Mossdale Bridge	120	120	}	130	122	224	206	219	261	318	346	308
Vernalis (f)					121	231	202	146	297	206	508	309
()												
	1						1			1	L	1

cean water contains approximately 18,200 parts per million.
 Prior to 1962 water year, the samples were collected at Point Pinole, 1., miles downstream from present station.

a For location are Plate
b Selegage of stored water from Folsom Sedervoir commenced in 1954.
c Delegage of stored water from Folsom Sedervoir commenced in 1954.
c Delegage of stored water from Folsom Sedervoir commenced in 1954.
c Delegage of stored water from Folsom Sedervoir commenced in 1954.
c No record.
f . tation located above tidal action.



				October	- 1961			
Station	2	6	10	14	18	22	26	30
Sobrante Beach Crockett Benicia Martinez West Suisun Innisfail Ferry Port Chicago Spoonbill Creek Pittshurg	11100 10900 8940 a 5540 7180 3540 a 1690	1.2200 1.0800 1.2700 5000 7640 2980 2300	San Fran 12900 10800 11400 a 8910 d 5250 8580 2940 c 2180	12200 12100 5000 9090 2980	12700 12100 11400 10300 a 5240 3520 ab 3980	1,3800 10600 12500 7480 4,5420 7490 2960	13900 11400 12700 10300 4260 8260 3440 2850	11300 7650 10200 a 5470 6400 3140 d 1090
Collinsville Emmaton Threemile Siough Bridge Rio Vista Bridge Isleton Bridge	a 310 b 95 b 14 b 17	1950 470 91 19	2100 535 a 82 13 14	Sacramento a 1660 a 468 173 16	River Delta a 2180 a 677 b 209 b 12	841 150 12	a 1870 a 771 232 13 10	1690 207 80 11 9
Antioch Antioch Bridge Jersey Island Threemile Slough Oulton Point San Andreas Landing Opposite Cectral Landing Dutch Slough East Contra Costa Irrigation District Clifton Court Perry Mossdale Bridge Vernalis (g)	a 836 a 126 a 64 a 23 a 16 a 126 a 123 a 63 a 283 a 292	1180 208 17 15 114 96 58 a 308 304	1140 199 80 81 23 14 a 116 a 100 a 60 a 300 a 290	San Joaquin 1270 237 a 47 a 59 a 21 a 12 a 104 109 a 58 a 292 b 243	a 1770 a 273 a 109 a 22 a 105 a 107 a 61 a 264 a 309	1520 229 b 92 14 124 121 a 77 a 280 a 262	1690 214 a 63 27 a 14 a 112 a 107 a 55 a 251 a 244	535 156 67 23 12 92 111 59 234 233
Station				Novembe				
	2	6	10	14	18	22	26	30
Sobrante Beach Crockett Beolcia Martinez West Suisun Innisfail Ferry Port Chicago Sponbill Creek Pittsburg	14500 11800 9690 10200 ae 8530 5690	d 14100 12400 8720 b 11900 7110 5290 7190 3240 1860	San Fra d 14200 13000 11300 9980 5040 8540 3500	d 13000 11400 9720 10000 5070 6450 2870 a 814	d 13500 12200 11100 11600 6350 4840 6160 2980 2170	12100 9140 4840 6970 3150	a 13700 7360 b 5350 3170	d 13800 8700 10600 a 5040 5000 a 4820 2500 2610
				Sacramento	River Delts			
Collinsville Emmaton Threemile Slough Bridge Río Vista Bridge Isletoo Bridge	2060 451 97 9 2	1520 446 63 8 8	d 1650 a 425 139 11 10	a 1510 a 352 43 10	1840 d 358 81 17	1400 455 67 15 9	a 1320 a 395 66 11 8	1210 278 67 15 12
				San Joaquin	River Delta			
Antioch Antioch Bridge Jersey Island Threemile Slough Oulton Poiot San Andreas Landiag Opposite Ceotral Landiag Dutch Slough East Cootra Costa Irrigation District Clifton Court Ferry Mossdale Bridge Vernalis (g)	1080 138 41 64 23 92 84 56 232 223	920 113 45 42 19 14 75 57 a 232 a 184	1220 157 48 67 22 a 10 a 69 a 54 a 60 a 173 a 162	1140 a 112 a 46 a 19 a 8 a 61 a 55 a 65 a 182 a 205	949 107 30 47 20 60 54 67 216 a 220	1110 103 35 a 44 21 16 a 57 a 61 a 75 a 224 a 208	1210 a 168 46 58 20 a 10 a 57 59 a 212 bd 180	963 129 37 18 11 57 63 93 186 4 193

^{*} Samples taken at four-day intervals approximately one and one-half hours after high high tide.

a Taken after low-high tide.

b Taken on following day.

c Taken two days later.

d Taken over one hour off scheduled time.

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS*

				Decembe	r 1961			
Station	2	6	10	14	18	22	26	30
			San Fra	ancisco, San P	ahlo, and Sui	aun Bays		
Sobrante Beach Crockett Benicia Martinez West Suisun Innisfail Ferry Port Chicago Spoonbill Creek Pittsburg	d 12000 11100 8980 10800 7370 2460	d 11900 8800 6570 6670 d 4630 3980 553	d 11100 8700 6300 8890 2220 3800 324	11200 9570 7040 8650 2780 4070 304 648	d 12200 10600 7410 10400 5940 582	d 12000 10100 8130 7780 2610 4930 836	ad 10900 7790 5740 2560 3280 2410 430	d 10800 9350 8040 9020 5660 bd 990 5690 587 120
				Sacramento	River Delta			
Collinsville Emmaton Threemile Slough Bridge Rio Vista Bridge Isleton Bridge	1090 137 58 13 12	213 51 24 9 9	167 a 24 21 14 14	65 32 19 15 13	232 20 16 14	a 162 52 20 12 10	56 30 16 9 7	23 15 12 12
				San Joaquin	River Delta			
Antioch Antioch Bridge	782 95	282 42	88 42	65 37	123	167 42	74 a 42	57 31
Jersey Island Threemile Slough Culton Point San Andreas Landing Opposite Central Landing Dutch Slough East Contre Costa Irrigation District Clifton Court Ferry Mossdale Bridge Vernalia (g)	35 18 12 60 65 116 194 a 185	a 20 17 55 79 148 a 186 a 174	a 24 17 a 10 46 76 a 176 a 171 a 183	20 16 46 83 175 204 211	24 d 22 21 16 41 76 184 a 223 a 232	23 d 26 20 41 a 85 a 195 a 221 211	20 a 21 a 20 8 43 87 214 218	21 d 24 21 47 97 228 236 236
				January	1962			
Station	2	6	10	14	18	22	26	30
			San Fra	ancisco, San P	ablo, and Sui	sun Bays		
Sobrante Beach Crockett Benicia Martinez West Suisun Innisfail Ferry Port Chicago Spoombill Creek Pittsburg	d 12700 11200 9120 10600 7100 2800 6850 1570	d 12800 12000 9820 9610 7040 3170	d 13300 11000 8610 8300 5660 3380 2250 ad 1030	12800 11000 8040 a 7610 6460 3500 1550 ab 1260	12700 11400 9390 3640 7440 1490 1270	12300 9220 7020 8590 5160 d 3540 3460 1550	10900 6730 a 6200 3800 3640 3190 639 a 204	11200 9200 8140 9510 3100 5110 832 ad 136
				Sacramento	River Delta			
Collinsville Emmaton Threemile Slough Bridge Rlo Vista Bridge Isleton Bridge	956 41 1 ⁴ 13 10	790 187 20 15 11	a 856 a 97 20 12 18	788 80 23 13 13	797 167 21 1 ¹ 4 13	836 22 22 14 10	100 25 17 8 7	a 424 28 14 9
				San Joaquin	River Delta			
Antioch Antioch Bridge	401 37	643 45	460 a 44	370 50	478 51	53	119 48	76 45
Jersey Island Threemile Slough Oulton Point San Andreas Landing Opposite Central Landing Dutch Slough East Contra Costa Irrigation District Clifton Court Ferry Mossdale Bridge Vernalis (g)	20 22 14 46 102 234 a 221 238	24 23 a 13 45 106 a 237 a 227 a 237	a 26 25 a 24 a 12 a 128 a 241 a 238 a 246	26 28 d 28 53 135 246 208 204	29 24 22 55 a 150 a 244 a 217 a 218	31 30 a 8 a 55 a 143 a 226 221 ad 225	28 31 a 20 7 57 161 231 214 207	25 31 12 57 221 222 224

^{*} Samples taken at four-day intervals approximately one and one-half hours after high high tide.

a Taken after low-high tide.

b Taken on following day.

c Taken two days later.

c Taken two days later.

d Taken over one hour off scheduled time.

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS

				Februar	y 1962			
Station	2	6	10	14	18	22	26	
			San Fra	ncisco, San Pa	blo, and Suis	ur. Bays		
Sobrante Beach Crockett Benicia Martioez West Suisun Innisfail Ferry Port Chicego Spoonbill Creek Pittsburg	9490 9490 9490 4670 2990 ad 4650 1670 1390	12500 11400 8120 11200 6700 d 3340	12500 10600 6800 a 6330 5270 3310 5310 1740 1320	5230 3180 1200 1240 542 2520 a 339 116 70	2560 1030 290 329 310 756 a 281 23	a 3160 1540 97 a 295 44 4 36 a 49 a 33	3680 1890 332 a 305 78 a 43 38 53	
				Sacramento	River De lta			
Colliasville Emmatoa Threemile Slough Bridge Rio Vista Bridge Isleton Bridge	729 60 17 12 10	930 d 138 a 21 13 10	901 69 17 7 12	44 19 6 6	51 24 5 5	12 7 5 8 6	14 11 8 9 7	
				San Joaquin	River Delta			
Antiocb Antioch Bridge	452 53	441 55	485 a 71	55 54	58 69	a 62 a 87	56 86	
Jersey Island Threemile Slough Oultoo Point San Andreas Landing Opposite Central Landing Dutch Slough East Contra Costa Irrigation District Clifton Court Ferry Mossdale Bridge Vermalis (g)	28 27 25 15 58 165 230 a 230	d 30 28 a 29 a 10 a 64 a 177 a 230 a 239 248	24 27 7 61 168 221 186 185	d 32 31 13 9 80 222 182 a 43 a 44	d 31 51 22 7 143 a 211 a 60 a 44	30 47 18 10 144 102 33 33 30	20 40 16 10 117 76 45 45 42	
				March	1962	-		·
Station	2	6	10	14	18	22	26	30
			San Fr	ancisco, San I	Pablo, and Sui	sun Bays		
Sobrante Beach Crockett Benicia Martioez West Suisun Inniefail Ferry Port Chicago Spoonbill Creek Pittsburg	8490 4340 3400 566 585 868 30	a 6570 a 3340 3870 473 160 38 61	a 3170 169 a 3840 94 937 a 180 30 33	3740 bd 3600 335 1570 ae 76 ae 682 44 38 35	6640 5110 2440 4270 164 36 26	a 7530 2360 a 1150 a 568 a 141 a 36 a 35	a 4500 3060 a 2940 838 614 479 52 ad 32	ae 8280 4870 2620 2450 ae 673 641 531 43 25
				Sacramento	River Delta			
Collinsville Emmaton Threemile Slough Bridge Rio Vista Bridge Isleton Bridge	20 17 15 16 8	18 12 a 14 12 8	13 9 12 7 6	17 16 10 7 7	16 d 12 16 12 10	a 21 15 12 12 12	20 16 16 11 7	20 11 9 7
				Sac Joaquin	River Delta			
Antioch Antioch Bridge Jersey Island Threemile Slough Oulton Point San Andreas Landing Opposite Central Landing Dutch Slough East Contra Costa Irrigation District Clifton Court Ferry Mossdale Bridge Vermalis (g)	52 77 36 21 34 12 98 103 59 a 62 a 61	48 74 30 27 12 83 a 93 a 74 a 69 a 65	41 60 28 28 27 8 62 95 48 25 25	50 50 26 33 22 8 77 87 41 41 ad 40	41 54 31 12 89 80 52 8 55 8 52	a 37 a 52 a 24 24 a 21 73 82 63 64 64	35 57 23 22 20 8 65 88 65 66 63	32 42 21 21 21 9 54 97 71 68 ad 64

^{*} Samples taken at four-day intervals approximately one and one-half hours after high high tide.

a Taken after lov-high tide.

b Taken on following day.

c Taken two days later.

d Taken over one hour off scheduled time.

g Station located above tidal action.

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS*

			-	April	1962	-		
Station	2	6	10	14	18	22	26	30
Sobrante Beach Crockett Benicla Martinez West Suisun Innisfail Ferry Port Chicago Spoonbill Creek Pittsburg	9010 6440 4790 a 473 37 24	a 7570 5100 2230 a 993 1190 a 555 466 a 33 d 31	San Fra b 7270 4400 1690 a 3520 344 508 230 28 22	a 10000 e 7090 u320 a 5290 a 5290 a 568 1930 a 24	ablo, and Suis a 9450 4090 a 3450 1770 a 677 s 19	a 9220 4760 a 5290 a 554 a 440 a 18	a 8490 2700 3450 403 1050 23	a 8640 3900 a 3620 1610 1400 a 23 a 17
,				Sacramento	River Delta			
Collinsville Emmaton Threemile Slough Bridge Rio Vista Bridge Isleton Bridge	16 15 14 10 6	a 21 15 12 6 4	14 19 6 6 4	a 11 a 12 6 6 9	a 13 ab 9 5 5	4 5 5	15 9 6 5 6	a 7 a 6 10 5
				San Joaquin	River Delta			
Antioch Antioch Bridge	32 55	a 28 a 206	a 39	a 20 a 31	a 18 a 36	18 a 37	15 19	a 16 a 30
Jersey Island Threemile Slough Oulton Point San Andreas Landing Opposite Central Landing Dutch Slough East Contra Costa Irrigation District Clifton Court Ferry Mossdale Bridge Vernalis (g)	20 24 16 9 52 100 a 71	a 16 16 12 6 53 93 98 98	11 13 12 5 39 141 72 113 109	a 9 34 ab 91 a 70 a 123 112	a 10 10 a 8 a 8 a 3 ¹⁴ 100 a 5 ¹⁴ 150	12 4 27 69 50 64 64	11 8 7 7 22 47 47 65 d 54	a 12 a 9 a 6 a 7 a 18 47 40 60 56
Station				May	1962			
Station	2	6	10	14	18	22	26	30
Sobrante Beach Crockett Benicia Martinez West Suisun Innisfail Ferry Port Chicago Spooobill Creek Pittsburg	a 10100 5020 a 3750 կկ80 a կկ4	a 10700 5770 a 3700 2670 a 1010 46 d 35	San Fre a 9400 4330 4580 2730 d 364 a 74 a 40	7750 a 5730 5 5330 a 5690 3710 a 414 2090 a 32 a 20	ablo, and Sui a 11400 8430 5730 22450 a 381 a 1310 a 36	a 11000 7270 6700 a 6330 3560 a 384 3140 46	a 11400 8340 5150 a 4530 b 410 2060 a 73	a 11400 9240 d 7180 4070 6050 4190 a 244
				Sacramento	River Delta			
Collinsville Emmaton Threemile Slough Bridge Rio Vista Bridge Isleton Bridge	a 8 d 8 a 7 5	17 10 10 7 6	a 26 ab 12 b 12 b 9 b 9	a 1 ⁴ a 7 6 6 11	a 23 a 7 7 7	36 9 8 8	a 18 a 13 b 11 b 10 b 9	a 20 a 16 18 8 10
				San Joaquin	River Delta			
Antioch Antioch Bridge Jersey Island	a 15 a 21	26	a 23 a 30	a 13 a 25	a 13 a 13	26 22	a 28 a 20	a 31 a 25
Thremile Slough Oulton Point San Andreas Landing Opposite Central Landing Dutch Slough East Contra Costa Irrigation District Clifton Court Ferry Mossdale Bridge Vernalia (g)	a 9 10 a 8 a 8 a 19 41 41 68 64	8 10 4 11 18 34 39 56 53	a 11 ab 11 a 12 a 16 a 31 a 38 a 64 a 54	a 9 a 10 a 11 a 9 a 16 a 38 32 32 32	a 11 a 10 16 38 36 66 d 66	12 11 12 8 17 38 38 94 82	a 13 a 13 a 11 a 15 a 20 b 60 a 41 a 85 a 82	a 12 a 10 a 9 a 21 a 41 a 41 a 99

Samples taken at four-day intervals approximately one and one-half hours after high high tide.

Taken after low-high tide.

Taken on following day.

Taken on following day.

Taken two days later.

Taken two days later.

Taken over one hour off scheduled time.

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS

63.21				June	1962			
Station	2	6	10	14	18	22	26	30
Sobrante Beach Crockett Benicia Martinez West Suisun Innisfail Ferry Port Chicago Spoonbill Creek Pittsburg	a 11200 9090 6710 a 3340 5720 a 445 bd 1060 a 327	a 10500 h560 a 2590 562 194 127	San Fra e 11500 e 8230 e 5250 e 7030 e 3710 e 548 ad 1750 a 175 a 72	a 12600 9370 7610 a 5810 5500 e 5890 a 290 a 99	a 12000 10100 8350 a 5700 7360 a 689 4880 a 329 a 132	a 12900 9280 a 9440 7170 1130 d 3740 389 204	e 10300 e 7510 e 10300 e 77 ⁴ 0 e 56 ⁴ 0 a 608	12800 12000 8750 a 4,580 8750 a 1170 e 6120 a 1140 a 360
				Sacramento	River Delta			
Collinsville Emmaton Threemile Slough Bridge Rio Vista Bridge Isleton Bridge	a 21 23 a 11 10 11	56 30 10 9 7	a 40 a 15 a 10 11 10	a 34 a 11 a 8 9 11	181 a 25 9 8 7	311 61 16 15 14	92 a 80 15 13 10	26 10 10
				San Joaquin	River Delta			
Antioch Antioch Bridge	a 32 26	53 a 31	a 38 a 23	a 23 a 28	a 59 a 28	123 35	a 208	a 112 a 36
Jersey Island Threemile Slough Oulton Point San Andreas Landing Opposite Central Landing Dutch Slough East Contra Costa Irrigation District Clifton Court Ferry Mossdale Bridge Vernalis (g)	a 12 11 a 9 d 21 45 128 124	11 11 7 19 52 41 19	ab 12 a 8 a 8 a 18 a 41 a 40 a 23	a 15 a 12 a 7 a 19 45 35 18 21	a 13 15 12 21 44 41 45	18 16 16 11 23 40 47 47	a 16 a 14 a 15 a 12 47 a 49 a 61	a 15 a 15 a 15 a 21 30 45 114 111
				July	1962			
Statinn	2	6	10	14	18	22	26	30
Sobrante Beach Crockett Benicia Martinez West Suisun Inniefeil Ferry Port Chicago Sponbill Creek Pittaburg	a 13300 9380 a 9150 5580 a 1150	a 13300 8620 1610 5760 1400 d 710	San Fra e 13300 e 8960 e 9480 a 1400 3942 a 1560 a 909	a 14100 10000 6730 a 1740 a 2070 a 986	12300 a 8300 9370 a 3380 a 1820	9490 8850 3250 6480 2800 ab 2350	e 14000 e 13600 e 10500 e 11900 a 2780 e 8030 a 3080 a 1820	a 14300 a 11000 a 3080 9370 a 3540 a 1920
				Sacramento	- 1			
Collinsville Emmaton Threemile Slough Bridge Rio Vista Bridge Isleton Bridge	a 534 a 62 25	805 4 119 23 10 10	a 708 a 98 19 10 a 9	a 113 27 10 10	a 1940 b 492 187 12 11	a 2030 389 65 52 17	a 1710 a 268 175 11	a 2000 a 425 121 24 10
				San Joaquin	River Delta			
Antiocb Antioch Bridge Jersey Island Threemile Slough Oulton Point San Andreas Landing Opposite Central Landing Dutch Slough East Contra Costa Irrigation District Clifton Court Ferry Mossdale Bridge Vernalis (g)	a 186 a 45 a 14 25 12 a 11 24 27 33 124 142	397 d 83 25 25 d 1 ¹ 4 11 27 28 36 160	a 249 a 76 a 24 abd 17 a 11 a 10 a 28 25 a 30 a 188 170	a 375 a 105 a 28 a 12 a 10 a 36 26 28 250 160	a 742 a 358 a 40 83 16 87 25 23 165 184	a 1050 a 280 a 63 a 20 a 10 a 106 a 26 a 24 a 198 192	a 739 d 333 ab 64 a 12 a 10 a 117 34 a 24 a 236 210	a 975 a 364 a 82 a 22 a 10 a 192 42 23 230 201

[•] Samples taken at four-day intervals approximately one and one-half bours after high bigh tide.

a Taken after lov-high tide.

b Taken on following day.

c Taken two days earlier.

c Taken two days later.

d Taken over one bour off scheduled time.

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS*

				Augus	t 1962			
Station	2	6	10	14	18	22	26	30
Sobrante Beach Crockett	a 14300 13000	14600 12400	San Fra e 14400 e 11800	a 14300	a 14300	un Bays	a 14300 11600	15500
Benicia Martinez West Suisun Innisfall Ferry Port Chicago	11400 a 11600	10200 12400 9770 a 3560 7690	e 10800 e 9650 e 9020 a 3270 e 8140	11200 7980 11100 ab 3690 9080	10500 a 9690 8290 a 4040 8600	11600 9580 11000 8670	11200 9360 a 4040	13200 10800 B 10500 8100
Spoonbill Creek Pittsburg	3130	2970 ad 1600	a 3100 a 1690	a 3120 a 1310	2910	a 2980 d 1600	a 3080 ab 1370	a 2690 a 1100
				Sacramento	River Delta			
Collinsville Emmaton Threemile Slough Bridge Rio Vista Bridge Isleton Bridge	2430 622 124 12 10	a 1690 a 456 71 11	a 1350 ac 206 a 58 10 10	a 163 a 91 20 a 11	335 67 13 10	a 1560 a 204 b 10 b 9	a 1820 a 114 101 12	353 114 12 11
				San Joaquin	River Delta			
Antioch Antioch Bridge Jersey Island	1630 a 479	a 1060 369	a 664 a 303	a 683	1380 a 365	a 851 a 325	a 803 a 442	1180 a 436
Threemile Slough Oulton Point San Andreas Landing Opposite Central Landing Dutch Slough East Contra Costa Irrigation District Clifton Court Ferry	111 121 26 12 181 47	a 88 a 79 a 24 ad 163 ad 159	a 58 a 52 a 22 a 11 a 149 58 a 29	a 62 114 a 20 12 a 138 62 31	93 77 35 10 123 63	a 77 ab 73 a 18 a 15 ad 124 a 66 a 30	a 130 a 116 a 43 a 22 a 183 69 29	a 107 150 20 183 77 32
Mossdale Bridge Vernalis (g)	231 208	a 210 171	a 193 186	188 188	508 515	a 202 184	209 167	190 183
Station				Septemb	er 1962			
	2	6	10	14	18	22	26	30
			San Fran	ncisco, San Pa	blo, and Suls	un Bays		
Sobrante Beach Crockett Benicia Martinez West Suisun Innisfail Ferry Port Chicago Spoombill Creek Pittsburg	15600 11900 d 8980 10900 8170 4720 6000 2640	15500 11400 10600 ad 7920 8640 a 4530 7920 a 2260 a 1230	a 14900 e 12200 e 11500 a 9770 9210 a 4340 6600 a 2450 a 590	a 14500 12500 9150 6890 a 1890	14400 12700 9080 8680 3550 6420 a 1790 a 849	a 14100 e 10200 e 8400 e 9600 e 6570 e 3400 bd 5380 a 1180 a 613	a 13500 11000 8490 10800 6890 6600 a 1200 a 176	13100 a 9930 7120 8620 5230 3240 1030 ab 487
				Sacramento	River Delta			
Collinsville Emmaton Threemile Slougb Bridge Rio Vista Bridge Isleton Bridge	1400 abd 86 111 10 12	a 792 a 75 42 14 18	a 745 a 85 38 13	a 637 a 98 75 15	a 660 a 151 a 51 14 14	a 401 a 56 34 17 11	a 444 a 1 11 42 13 12	328 105 a 27 8 8
				San Joaquin	River Delta			
Antioch Antioch Bridge Jersey Island Threemile Slough Oulton Point San Andreas Landing Opposite Central Landing Dutch Slough East Contra Costa Irrigation District Clifton Court Ferry Mossdale Bridge Vernalis (g)	635 363 a 125 a 125 a 42 a 27 a 173 ab 73 a 32 a 183	a 613 316 ad 122 ad 104 a 51 a 22 a 165 a 78 a 39 a 181	a 542 a 274 a 112 a 57 ad 186 a 85 a 39 151 149	ad 519 a 244 a 94 103 47 17 172 a 92 46 190	a 377 a 189 a 71 a 75 a 18 a 18 a 142 a 90 a 51 a 174	a 218 a 132 a 80 a 50 a 16 a 108 a 89 a 53 a 161 151	a 396 ad 113 n 84 a 37 ac 27 a 21 10 a 84 92 55 160 169	287 79 57 27 a 26 19 a 10 a 73 a 84 a 55 a 150

^{*} Samples taken at four-day intervals approximately one and one-half hours after high high tide.

Taken after low-high tide.

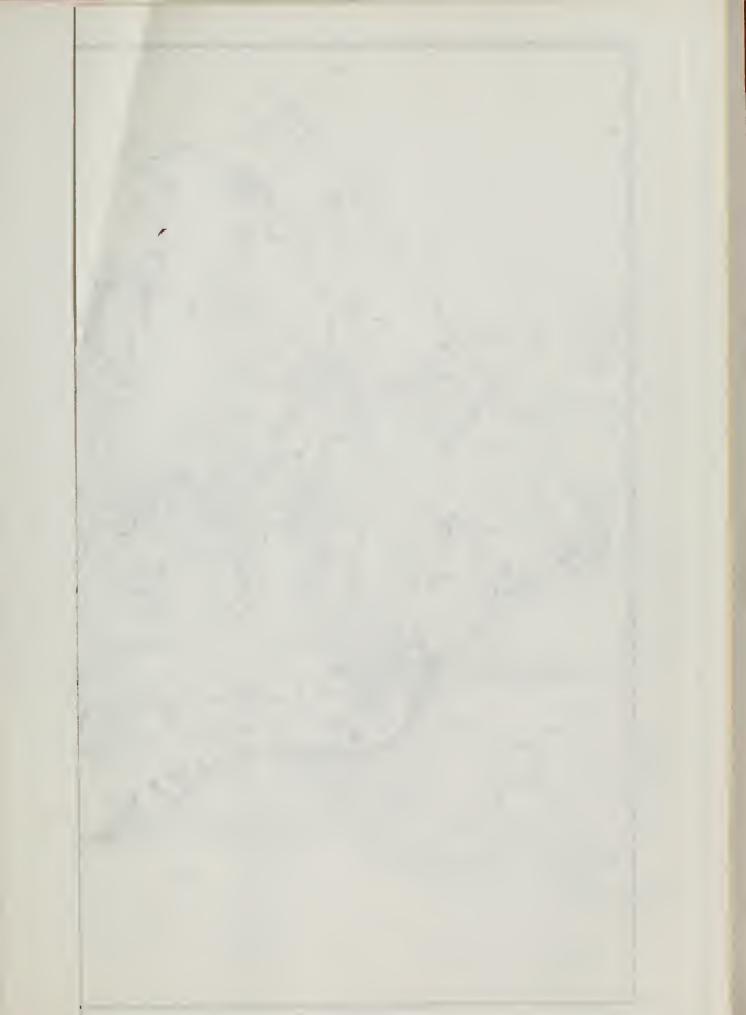
Taken on following day.

Taken on following day.

Taken two days later.

Taken two days later.

Taken over one hour off scheduled time.



SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS*

outl.	August 1962							
Station	2	6	10	14	18	22	2 6	30
Sobrante Beach Crockett	a 14300 13000	14600 12400	e 14400 e 11800	a 14300 12700	a 14300 12500	13200	a 14300 11600	15500 13200
Benicia Martinez West Suisun Innisfail Ferry Port Chicago Spoonbill Creek Pittsburg	11400 a 11600 8860 3130	10200 12400 9770 a 3560 7690 2970 ad 1600	e 10800 e 9650 e 9020 a 3270 e 8140 a 3100 a 1690	11200 7980 11100 ab 3690 9080 a 3120 a 1310	10500 a 9690 8290 a 4040 8600 2910	11600 9580 11000 8670 a 2980 d 1600	9360 a 4040 a 3080 ab 1370	10800 a 10500 8100 a 2690 a 1100
	Sacramento River Delta							
Collinsville Emmaton Threemile Slough Bridge Rio Vista Bridge Isleton Bridge	2430 622 124 12 10	a 1690 a 456 71 11 12	a 1350 ac 206 a 58 10	a 163 a 91 20 a 11	335 67 13 10	a 1560 a 204 b 10 b 9	a 1820 a 114 101 12	353 114 12 11
	San Joaquin River Delta							
Antioch Antioch Bridge Jersey Island	1630 a 479	a 1060 369	a 664 a 303	a 683	1380 a 365	a 851 a 325	a 803 a 442	1180 a 436
Orthogolder Threemile Slough Oulton Point San Andreas Landing Opposite Central Landing Dutch Slough East Contra Costa Irrigation District Clifton Court Ferry Mossdale Bridge Vernalis (g)	111 121 26 12 181 47 231 208	a 88 a 79 a 24 ad 163 ad 159 a 210 171	a 58 a 52 a 22 a 11 a 149 58 a 29 a 193	a 62 114 a 20 12 a 138 62 31 188 188	93 77 35 10 123 63 32 212 208	a 77 ab 73 a 18 a 15 ad 124 a 66 a 30 a 202	a 130 a 116 a 43 a 22 a 183 69 29 209	a 107 150 20 183 77 32 190 183
Station	September 1962							
	2	6	10	14	18	55	26	30
San Francisco, San Pablo, and Suisun Bays								
Sobrante Beach Crockett Benicia Martinez West Suisun Innisfail Ferry Port Chicago Spoonbill Creek Pittsburg	15600 11900 d 8980 10900 8170 4720 6000 2640	15500 11400 10600 ad 7920 8640 a 4530 7920 a 2260 a 1230	a 14900 e 12200 e 11500 a 9770 9210 a 4340 6600 a 2450 a 590	a 14500 12500 9150 (890 a 1890	14400 12700 9080 8680 3550 6420 a 1790 a 849	a 14100 e 10200 e 8400 e 9960 e 6570 e 3400 bd 5380 a 1180 a 613	a 13500 11000 8490 10800 6890 6600 a 1200 a 476	13100 a 9930 7120 8620 5230 3240 1030 ab 487
	Sacramento River Delta							
Collinsville Emmaton Threemile Slough Bridge Rio Viata Bridge Isleton Bridge	1400 abd 86 111 10 12	a 792 a 75 42 14 18	a 745 a 85 38 13 16	a 637 a 98 75 15 16	a 660 a 151 a 51 14 14	a 401 a 56 34 17	a 444 a 111 42 13 12	328 105 a 27 8 8
	San Joaquin River Delta							
Antioch Antioch Bridge Jersey Island Threemile Slough Oulton Point San Andreas Landing Opposite Central Landing Dutch Slough East Contra Costa Irrigation District Clifton Court Ferry Mossdale Bridge Vernalis (g)	635 363 a 125 a 125 a 42 a 27 a 173 ab 73 a 32 a 183 158	a 613 316 ad 122 ad 104 a 51 a 22 a 165 a 78 a 39 a 181	a 542 a 274 a 112 a 57 ad 186 a 85 a 39 151 149	ad 519 a 244 a 94 103 47 172 a 92 46 190	a 377 a 189 a 71 a 75 a 35 a 18 a 142 a 90 a 51 a 174	a 218 a 132 a 80 a 50 a 16 a 108 a 89 a 53 a 161 151	a 396 ad 113 a d4 a 37 ac 27 a 21 10 a 84 92 55 160	287 79 57 27 a 26 19 a 10 a 73 a 84 a 55 a 150

^{*} Samples taken at four-day intervals approximately one and one-half hours after high high tide.

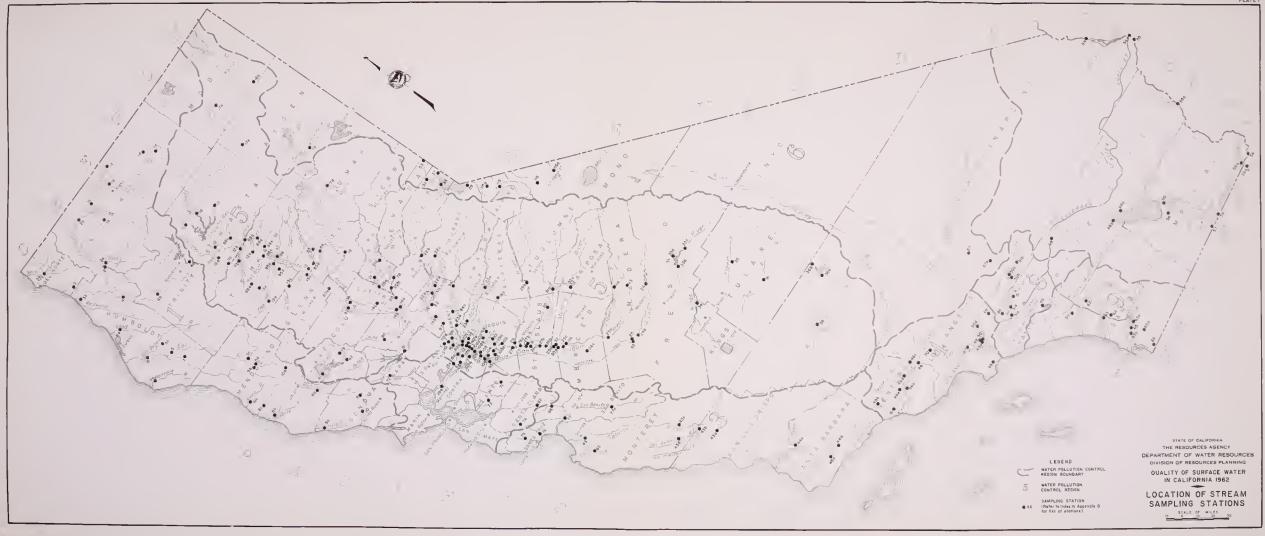
a Taken after low-high tide.

b Taken on following day.

c Taken two days later.

d Taken two days later.

d Taken over one hour off scheduled time.



Stations shown on map

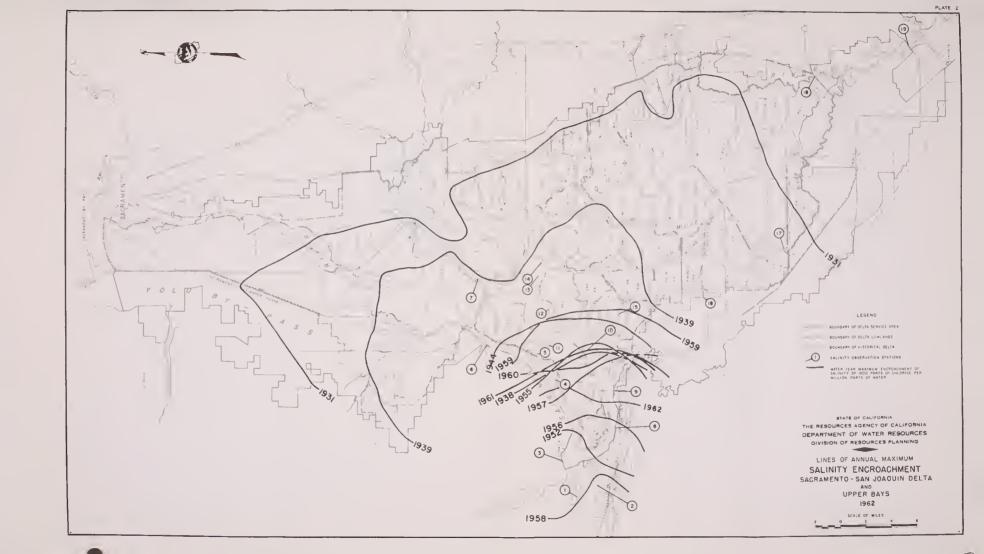
- 1 Speechtill Creek
- 2 Patthburg
- 3 Co new to
- # Emmalas
- 5 Threemile Slough Bridge
- + Rio Vista Bridge
- win assis bildie
- Isleton Bi dge
- Antioch
- 9 Antioch Bi dge
- Dailton Point
- San Andreas Landing
- Opposite Central Landing
- Dutch Slough
- te Esticoura Costa Milianou mi .
- .7 Cliffon Court Ferry
- .i Mossdale Bridge

" tions off map

Soprante Beach

- Linchell
- Benicia
- Mailines
- Mest Suisini
- Port Chicago

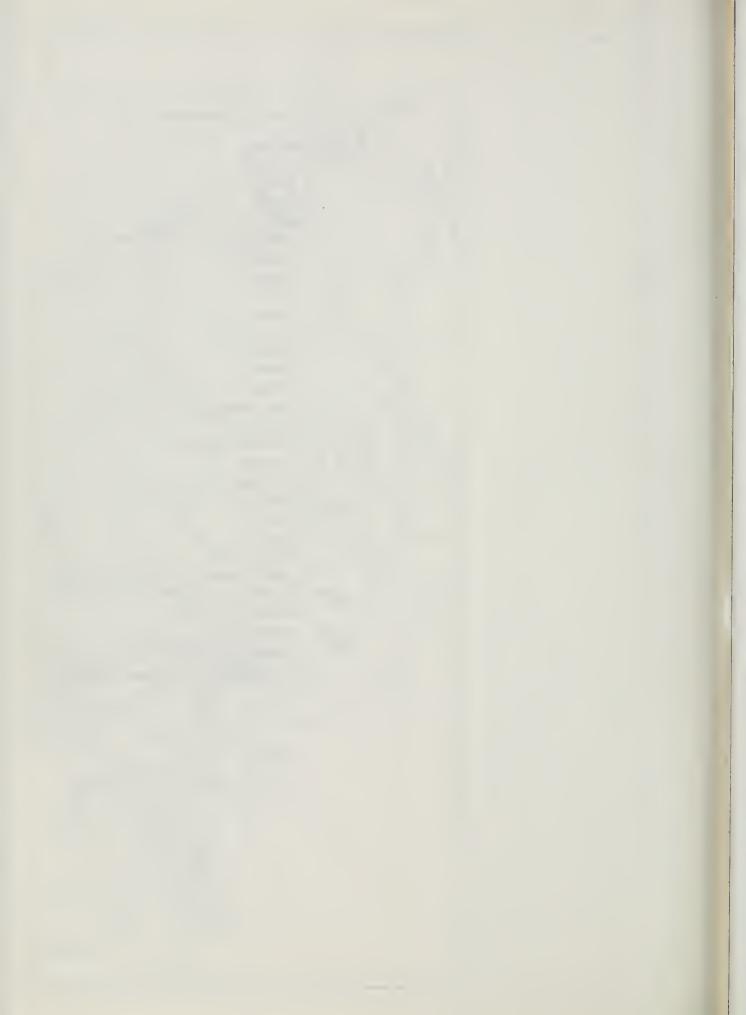
Note: For description of station Jocalian, See Appendix B





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